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American Railroad Journal.

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Saturday, March 29, 1851.

Foreign Correspondence of the Journal.

On Sunday evening, the 23rd of February last, we first set foot in England, after a most agreeable passage from Boston of eleven days solar time, or ten days twenty hours mean time, in the Royal Mail Steam-ship *Canada*. It was a remarkable passage, as well for the smoothness of the sea, as for the favorable winds that prevailed until our arrival off the south coast of Ireland. For days together the studdingsails stood to catch every breath of the westerly breezes, too gentle, even in this usually boisterous reason, to raise the mighty billows, which are the dread of all but experienced seamen. But for the occasional fields of ice floating in small oval and rounded shapes, as the fragments were rubbed by the waves against each other, and two icebergs, which at this uncommonly early season had broken from their fastnesses on the northern coasts, and were drifting down the polar current with what earthy materials they might have taken up, to scatter as drift and bowlders on their path, there was nothing on the passage to afford reasonable matter for hanging a fear upon. But the sight of these icebergs could not fail to suggest the possibility of an unpleasant rencounter in a dark night, which to a hollow wooden structure, even as strongly put together as the Canada, might result in not the most desirable illustration of the superior strength of the works of nature to those of art The still uncertain fate of the *Atlantic*, no doubt, added to the feeling of insecurity these icebergs might awaken in the minds of those unaccustomed to them; and it was certainly not with feelings altogether unselfish, that when off the mouth of the Mersey, the pilot, before he fairly was within the gangway, answered the first question asked him, that a hearty shout was repeated from the decks by all the passengers gathered to hear the news.

The average rate of sailing of the *Canada*, with a moderately fair breeze and a smooth sea, was from eleven to twelve knots, the greatest distance run in twenty-four hours was 387 miles. As her freight of coal diminished every day at the rate of about 60 tons, and the ship became lighter, it is probable that in the latter part of the passage her speed was considerably lessened by the ease with which she rolled, as she run before the sea—one or the other wheel became alternately out of the water and merged deep into it. During the whole passage the two great engines worked with perfect regularity, and were only stopped when it was desirable to lessen the speed of the vessel in passing through the fields of ice. These engines are rated together at 750 horse power, but as we estimate the horse power, they would probably be rated considerably higher in the United States. The consumption of coal vanes from 50 to 60 tons every 24 hours. It may be much increased by the carelessness of the engineers, and it is probable that to this cause is to be attributed the extraordinary consumption of more than one hundred tons per day, which we are informed has been required in some of the American steam-ships. We cannot learn that there is any essential difference in the machinery; and the breaking of the shaft of the *Atlantic* is an accident that may happen to any of the boats—indeed the same occurred to the *Columbia* a few years since. Were the iron from our own mines, alone, employed for the manufacture of this heavy machinery, it is probable such breakages would more rarely occur, than when, under the present policy of our government, the temptation is made so strong to introduce the cheap foreign irons made with *mineral coal* from the inferior ores of the coal formation. This evil must now we fear, be more and more felt every year, our own best irons being, to great extent, driven out of our markets, and the skill that was employed to manufacture them being diverted to other pursuits. To every one interested in the prosperity of his country, and knowing its resources, this cannot but be felt with regret, especially when he is fully persuaded that through our own enterprise, ingenuity, and by home competition, we were rapidly diminishing the cost of this important commodity, and at the same time bringing it to a degree of excellence, which we in vain look for in the cheap articles now taking its place. In this connexion, after a partial examination of some of the great iron works of this country, we cannot but express the better opinion we have of our own mines of iron ores, and of the operations of many of our own blast furnaces; so that even allowing the difference in the cost of labor, which is the great item in the manufacture of iron, to be as three and a quarter to one against us, yet could we secure to the same amount of capital employed in the great works here, only the protection which was contemplated by our present tariff, and which it gave at the time it was established, we might not only supply ourselves with better qualities of iron, than are now easily found in our markets, and at present prices of inferior brands; but give prosperity to a large agricultural interest now suffering from the loss of its home markets, and eventually make our good irons what nature intended, by the enormous supplies of the ores, they should be, articles of exports to foreign countries, which are not so liberally provided with them.

In the railways of Great Britain, so far as our limited experience yet goes, we must confess we have been disappointed, though we doubt not our impression will be considerably modified when we come to travel upon other lines than that extending from Liverpool to London. The track of this much resembles our own, the iron rail laid upon cross ties buried in the earth, and the two rails only four feet six inches apart. The carriages are like our old stage coach bodied-cars, each divided into three compartments, the seats fronting each other, so

that when full, half the passengers ride backwards. Those on this road of the first class only are cushioned. The second class carriages, in which men of business mostly ride, are very ordinary, the seats and sides plain boards, the latter frequently pasted over with advertisemenis. The third class, of course, are inferior to these. The express trains on this route are only first class cars, they run through from Liverpool to London about 210 miles in six hours, and the fare is £2 5s., about $10.88—the other passenger trains are about nine hours on the road. Neither in accommodation, speed, nor expense, is this road superior to many in New York and New England. The cars are set upon steel elliptical springs, and the motion is no smoother, nor accompanied with less noise, than with the best of those upon our own roads. But in other respects we noticed a striking superiority of arrangement, we refer first to the particular care adopted to prevent accidents by the employment of a large force of men scattered along the road, one at least at every turn out, whose duty it is always to be on the spot to give notice on the approach of a train, that everything is in order for its safe running; and secondly, to the close examination, at every principal stopping place, of the wheels and axles, to see that all is right, and to tighten the screws, which may have worked loose; and thirdly, to the plan of securing the carriages to each other to prevent their bumping and jerking when starting. Each carriage is provided with a buffer or bumper at each corner, fixed to the end of a stout iron rod which enters in a long box at the extremity, within which is placed a spring, no doubt spiral, which while it is very stiff admits also from one to two feet play. The carriages are brought up to each other till their buffers meet, and then by a coupling of an iron rod, working with a screw in a swivel, which rod is rapidly twisted round by means of a lever with an iron ball at the end, the cars are brought close together so as to produce considerable pressure upon the springs. By this arrangement, between each carriage a perfect horizontal elasticity is secured through the whole train, an arrangement so agreeable to the passengers that we cannot understand why it has not been introduced on our own railways; unless it may be that the sharper curves may present some obstacle to its use. In case of any accident happening to the coupling, two very heavy chains are provided, one on each side of it, which are also attached to corresponding chains on the other car, and they hang loosely down ready for action if required.

By the extraordinary care the English have taken to guard against accidents in travelling, the number of these per annum is wonderfully small. It appears from returns lately presented to Parliament, that during the half year ending June 30th, 1850, there were 31,766,503 journeys made by rail; that in this time only 10 passengers were killed, and only 36 more injured; of those employed by the company and of trespassers upon the roads, 80 were killed and 32 injured. The *Times* commenting upon this, says,—"So far as we may take a single half year as our guide, it would appear that the chances of any individual passenger arriving safely at his destination are as 690,554 to 1, and that the chances are more than three millions to one against his being killed outright."

Basing their operations on such data as these, the Assurance Company against accidents upon railways, issues tickets, which may be bought with the passage tickets at the railway stations, for three pence (six cents) additional price, guaranteeing £1000 in event of loss of life, and a fair proportional rate for accidents of less serious nature. And in the payments that they have been called upon to make, we are informed they have shown a commendable liberality. Though we secured one of their tickets we were spared the occasion of putting this to the test.

H.

American and Foreign Building Stones.

Comparison of Experiments on American and Foreign Building Stones, to determine their relative Strength and Durability. by Professor Walter R. Johnston, of Washington, D. C.

As we have in the United States but few ancient buildings, the age of which can furnish conclusive proofs of the durability of their materials, and as but few of the materials which are found in such abundance and variety in this country, have been subjected to any satisfactory experimental tests to prove either their strength or durability, it is desirable that a rigorous comparison should be made, not only between the results of such trials on American rocks as have been made, but also between them and such foreign materials as have been tested by the most careful experimenters, and have besides undergone the more decisive proofs of many centuries of use in public edifices and monuments. As nature has in many situations exposed these various materials to the direct action of all the causes which can work their gradual destruction, and as these destructive causes have evidently wrought with an efficacy on some rocks vastly greater than on others, it is clear that if we would ascend to the highest and most reliable proofs of durability, we must seek for them in the condition which the rocks themselves have been able to maintain, not for the few brief centuries to which the memory of man extends, but during the geological ages which run back immeasurably beyond all human history. Those rocks which amidst the denuding, disintegrating and decomposing influences, whether derived from sweeping currents of water, from meteoric action and changes of temperature, or from vegetable growth and decay, have been able to sustain themselves in high, bold, naked, angular cliffs, unprotected by soil, and yet unfurrowed by irregular disintegration, are manifestly those to which the engineer and architect are to direct their attention, when they seek materials for durable works of art. On the other hand, they will shun those rocks which the causes above enumerated have kept constantly down to a level with the ground, or which barely rise in some few patches to the surface, and are there seen disintegrating, scaling away, and covering themselves with a soil derived from their own debris.

The chemistry of geology furnishes to the architect and engineer most important hints for guiding their selection of materials; hints which when taken with other tests and proofs, leave them without excuse for choosing those of an inferior character. The influence of such a substance as iron pyrites on the duribility of rocks in which it occurs, is so well known to every one acquainted with only the rudiments of geology and mineralogical chemistry, as scarcely to need a formal statement.* The effect of carbonic acid with water in dissolving carbonate of lime, and the readiness with which it acts on loosely aggregated crystalline masses of that carbonate, to effect their disintegration, may be understood from any elementary work on chemistry. The greater solubility of sulphate than of carbonate of lime may be ascertained from the same source. The weakness of coarsely crystalized stones as compared with those of finer texture, is so well known as to be properly classed among the canons of architecture†.

Of all the purposes for which building materials are employed, that which requires the utmost attention to durability is the erection of national monuments. It is a mockery to the dead, and an opprobrium to the living, to put perishable materials into structures professing to perpetuate the virtues of great and good men. The Spanish nation is represented to have recently determined on the erection of a magnificent statue of bronze to rest on a base of rose granite, the most enduring of that species of rock, to commemorate the glory of Columbus.

The question of the strength of a material to resist a crushing force is sometimes a vital one, as has been painfully proved within a year or two past in some of our large cities, where extensive warehouses have been crushed beneath their own weight and that of the goods which they contained, occasioning fearful losses of life. But the crushing test has by no means a single aim. It looks to the relation between the cohesion of a material and its capacity to resist the action of other than mechanical causes of disintegration. It is certainly a most egregious mistake to construct any tall public edifice in such a manner as not to sustain its own dead weight, but there are operations scarcely less discreditable, and which apply with equal force to structures professing to be enduring whatever be their height, their form, proportions or weight.

The usual trial of materials in small cubes is extended to furnish the relative strength or durability of the several species of materials to which it is applied.

The stone used in the Washington National Monument, and referred to in the following comparisons of experiments, is the same as that mentioned under the name of "*alum limestone*," in the report of the building committee to the Regents of the Smithsonian Institution, Dec. 7, 1847.

"The marble quarries of Maryland, chiefly in the vicinity of the village of Clarksville, about thirteen miles from Baltimore, on the line of the Susquehanna railroad, contain two qualities of marble; one fine grained and of beautiful uniform color, approaching the character of statuary marble; the other of inferior quality, similar to the Sing Sing marble employed in New York in Grace Church and other public structures, of a somewhat coarse and highly crystaline structure, and known to the quarrymen here under the name of 'alum limestone.'"*

Trials of these two kinds of stone by the process of Brard† were made by Dr. Page in 1847, and showed that "an inch cube of the fine-grained marble lost in four weeks about one-fifth of a grain; and a cube of the best quality of the 'alum stone,' or coarse-grained marble *from half a grain to a grain and a half*."‡

This indicated with sufficient clearness the inferior durability of the coarse-grained stone; since it underwent from *two and a half to seven and a-half* times as much disintegration as the fine-grained variety. The fine-grained stone is understood to be derived from the Taylor quarries, half a mile westward of Cockeysville, and about a mile distant from the Griscom lime quarries which are at a place called Texas, where the "alum limestone" used at the National Monument is procured. At the latter quarries the stone is worked wholly below the original surface of the ground. At a few points along the outcropping edge of the bed, the harder parts of the rock come to the surface of the ground or rise occasionally one or two feet above it, covered in places with loose granules of the same rock. In some parts it is eroded into sloping channels, lined with skeletons of crystals and their slightly cohering nuclei.

On removing the soil, the rock is found with alternating peaks and cavities; its surfaces are more or less deeply tinged with the oxyd of iron derived from decomposed iron pyrites, many veins of which traverse it in various directions, and the skeleton crystals with loosely cohering nuclei are even more conspicuous than at the points where the rock crops out as above described.

That even the fine-grained stone above mentioned is not in all respects suitable to be employed as the casing stone of large shafts, is proved by the present condition of the shaft of the Washington Monument in Baltimore, where a similar stone

*"Pyrites when present, (in granite) renders the rock unfit for use as it decomposes and stains or rusts the surface, besides loosening the grains and causing the rocks to fall to pieces."—*Dana's Mineralogy*, p. 579.

†Borgni's "Constructions Diverses," p. 23, and Rondelet's "Art de Batir."

* Hints on Public Architecture, by R. D Owen, p. 114.

† Ann. de Chim. et de Phys., tom. 38.

‡ Owen, p. 116.

from the same neighbourhood was used. This monument was commenced on the 4th of July, 1815, and the statue was elevated on the 19th of October, 1829. On the 23d of October, 1850, or twenty-one years from the date of its completion, I examined from the platform at the base of the shaft, the conditton of its lower part.

There was seen on the side of the shaft opposite to the north-east corner of the base, a crack commencing near the bottom and following partly the joints of the masonry, and partly certain transverse or vertical cracks crossing the blocks of marble. The 3d, 5th, 8th, 10th, 11th, 13th, 14th and 15th courses of stone, counting from the bottom, were seen to be broken either partly or wholly across, and in one instance a block is broken into three pieces. On the south-easterly side of the shaft is a second line of fracture crossing ten or twelve blocks, mostly alternating with the courses of masonry which have joints corresponding with the general course of the fissure. At the south-westerly side are fifteen blocks cracked either partly or wholly across, and forming a third fissure more or less in a zig-zag direction, controlled apparently in some degree by the joints of the masonry. On the west side a fourth line of fracture appears to ascend some forty or fifty feet, and on the north-west side still a fifth line perhaps somewhat more irregular in direction than the preceding, but still easily traceable by the eye. In some cases where the cracks on two alternate blocks meet the joint of masonry in the course between them, the opening of that joint is apparent; in other words the crack is here in the cement, as might reasonably be expected. How long these cracks have existed I have no means of ascertaining. But one thing seems certain, that alternate cold and heat, rain and frost, will, along these lines of fissure, produce their usual effects of thrusting farther and farther apart the masses which bound them. Time will reveal the effects, and perhaps expose the causes of these incipient delapidations.

A chemical analysis of the "alum limestone" has been published by Dr. L. D. Gale, which makes the composition of that sample to be

Carbonate of lime	98.6
Silica or other insoluble matter	1.4
	100.

I have also found one very white specimen in which the insoluble matter was only 0.4 per cent., but even from the solution of this, ammonia threw down a slight brownish precipitate of oxyd of iron.

A specimen of the blue vein variety showed the following characters:—Its specific gravity was 2.-708. 1218.4 grains pulverized and carefully washed, afforded a residue of 5.5 grains of iron pyrites (and an inappreciable quantity of adhering silica,) equal to 0.45 per cent. 100 grains treated with strong acetic acid, lost 73.7 per cent. Strong boiling nitric acid applied to the insoluble residue dissolved the pyrites, and the sulphuric acid thence produced was precipitated with chlorid of barium, giving 1.62 grains, equivalent to 0.42 grains of iron pyrites, agreeing very nearly with the mechanical analysis.

The acetate was dried up, converted into carbonate, and then redissolved and precipitated with oxalate of ammonia, to separate the lime, after which ammonio-phosphate of soda threw down of phosphate of magnesia 1.3 grains, equivalent to 0.47 grains of magnesia, or to 0.97 grains of carbonate of magnesia. From this it should seem that the sample was composed of

Carbonate of lime	72.73
Carbonate of magnesia	0.97
Sulphuret of iron	0.42
Insoluble silicates	25.88
	100.

As the pyrites is one of the chief coloring matters of the dark veins, it is evidently very variably distributed through the stone. The crystals of sulphuret are mostly small, but easily detected, by the naked eye.

On breaking a weathered portion of the pyritous vein it is often found penetrated from one to two or three inches by the coloring matter (peroxyd of iron). On the interior parts of the discolored portion, the pyrites will be found but partially decomposed. On the outer portions it will have wholly given place to the peroxyd. On the fresh surfaces not reached by rust, the yellow pyrites remain unchanged.

When an attempt is made to polish a surface of the alum limestone, portions will occasionally be detected which from their softness render fruitless all attempts to impart lustre to them. On careful examination they will be found so soft as to be readily scratched with the finger nail. In many parts, little triangular cavities, from which it appears the last remnants of the solid angles of crystals have dropped out in the operations of cutting and polishing, will be easily discovered by the eye, and slight lines forming the boundaries of the large crystals are not unfrequently traceable when the piece is brought into a strong light. A block thus polished will have all its crystals of pyrites from their superior hardness left slightly elevated above the surface of the carbonate of lime which is worn away in polishing.

The surface of polished stone thus variously marked with elevations and cavities, may be used like an engraver's plate, and will give an impression of its own markings, of much interest.

To be continued.

Freezing Water.

Mr. Faraday has read to the Royal Institution, a paper, "On certain conditions of Freezing Water." The chief object of Mr. Faraday's discourse was the great, various, and extraordinary forms of affinity which exist between the particles of water. Having experimentally illustrated the combining power of water, and shown how this attraction passes from a physical to a chemical force, Mr. Faraday confined the rest of his discourse to ice, as being that condition of water in which its particles are allowed to associate with each other without the intervention of foreign matter. Such ice as is now imported into this country under the name of the Wenham Lake Ice (though it is chiefly supplied from Norway) may be regarded as one of the purest natural substances. Mr. Faraday first showed how entirely colouring matter, salts, and alkalies, are expelled in freezing. A solution of sulphate of indigo, diluted sulphuric acid, and diluted ammonia, were partially frozen in glass test tubes; as soon as the operation had been carried on long enough to produce an icy lining of each tube, the unfrozen liquid was poured out and the ice dislodged. The ice was found in every instance perfectly colorless; and, when dissolved, perfeetly free from acid or alkali; although the unfrozen liquid exhilited in the first experiment a more intense blue color, in the second a stronger acid, and in the third a more powerful alkaline reaction than the liquor which was put into the freezing mixture. Mr. Faraday also devised a method for making this ice perfectly clear and transparent as well as colorless. By continually stirring the liquid while freezing, with a feather, he brushed away globules of air as fast as they were dislodged from the freezing liquid, and thus prevented their becoming imbedded in the ice. Having noticed the rapidity with which water absorbs air as soon as it is thawed, Mr. Faraday called attention to the importance of this natural arrangement to aquatic plants and animals, to whose life air is as indispensable as to those which live on land. Mr. Faraday then referred to Mr. Douny's discovery that water, when deprived of air does not boil till it reaches the temperature of 270°; and that, at that degree of heat, it explodes. He mentioned that he suggested to Mr. Douny that ice when placed in oil (so as to prevent its receiving any air from the atmosphere on thawing) would probably explode on reaching the boiling temperature. This experiment had been successfully tried by Mr. Douny, and was as successfully repeated on this occasion. Mr. Faraday then invited attention to the extraordinary property of ice in solidifying water which is in contact with it. Two pieces of moist ice will consolidate into one. Hence the property of damp snow to become compacted into a snowball—an effect which cannot be produced on dry hard frozen snow. Mr. Faraday suggested, and illustrated by a diagram, that a film of water must possess the property of freezing when placed between two sets of icy particles, though it will not be affected by a single set of particles. Certain solid substances, as flannel, will also freeze to an icy surface, though other substances, as gold leaf, cannot be made to do so. In this freezing action latent heat becomes sensible heat; the contiguous particles must therefore be raised in temperature while the freezing water is between them. It follows from hence that by virtue of the solidifying power at the points of contact, the same mass may be freezing and thawing at the same moment, and even that the freezing process on the inside may be a thawing process on the outside. Mr. Faraday then referred to Mr. Thomson's memoirs on the effect of pressure on the freezing point. Mr. Thomson has shown that immense pressure will prevent water from freezing at 32°—ice naturally occupying a greater volume than that of the water which forms it. And we may conceive that when ice is pressed, the tendency is to give both the water bulk and state.

In conclusion, Mr. Faraday noticed briefly, and chiefly by way of suggestion, the molecular condition of ice, as presenting many curious results; and called attention to the strangeness of strim being formed in a body of such uniform composition as pure water frozen into ice.—*Year Book of Facts.*

From the Journal of the Franklin Institute.

On a Probable Means of Augmenting the Ascensive Power of Locomotives on the High Gradients of Railways.

By Elwood Morris, C. E.

It is well known that numerous accurate experiments on friction have established the law, that within the limits of abrasion, tho friction is as the insistent weight, and not as the surface of contact.

These experiments, though they have formed the basis of many calculations of the various frictions of railways, and have been valuable in this department of mechanical science in establishing *minimum* results, do not meet the practical acquirements of railway motions, because, in those motions invariably, when *maximum* effects are to be produced, the limit of abrasion is always reached and passed.

Of the friction of moving metals in contact, when abrading each other, we have no experiments whatever. Hence we have no means of calculating beforehand, the bite of a locomotive slipping her wheels upon a rail, because then both wheels and rails *abrade.*

We know that the maximum adhesion of engines upon dry rails, exceeds all results of calculation based upon the ordinary laws of friction, and hence some have been inclined to doubt the accuracy of those laws, though they are undoubedly true, within the limits taken by the initial experiments upon which they were founded. When engines slip their wheels on railways, both wheels and rails abrade, the law of friction changes, and we enter at once upon a new field, in which we have no exact results recorded, and of which we only know that the coefficient of friction is greatly increased.

It is upon this meagre outline of facts, (which might be much extended if the authorities were at hand,) that the writer, from observation of years in his professional avocations, has formed the opinion, that beyond the limits of abrasion, the law of friction, as applicable to brake blocks and the slip of wheels on rails, changes entirely, and that the bite or adhesion is in some degree proportionate to the surface of contact, as well as to the weight imposed. The writer believes this to be especially the case in the ascension of heavy gradients by locomotives, where the sand box is always used. In such cases, it is highly probable that a mere increase of the breadth of the rail, or surface gained, will augment very materially the bite or adhesion of the driving wheels, though the weight remains the same.

The usual surface of contact of wheel and rail, has a breadth of only *two* inches, while the wheels themselves have a breadth of nearly *four* inches. If then, beyond the limit of abrasion, the friction increases in the same ratio to the surface, (as the writer believes,) then upon high gradients, all we have to do is to lay down broad headed rails, conforming to the tire of the wheels, and thus increase at once the adhesion.

This, of course, supposes engineers to have surplus steam power; and such is usually the case

with modern locomotives, which in fact, as now in practice, always do, or ought to, arrive at the foot of a steep grade with a full head of steam; then the sand box freely used upon a four inch rail, it seems highly probable, will augment so much of the bite of the wheels, as to render high gradients less formidable than they are now.

To the above considerations, the writer respectfully invites the attention of his professional brethren, in the hope that some of the companies they serve may at once put this important matter to the test, and lay a few hundred yards of rails, four inches broad, upon the high gradients of some railway doing a heavy freight business. A few months' use, and a few correct experiments, would settle this question definitely, and the writer knows scarcely any other, of more moment to some railways.

New York.

Rochester and Syracuse Railroad.—The following table exhibits the receipts of the Auburn and Syracuse and Auburn and Rochester railroad company, now the Rochester and Syracuse railroad company, for the past four years, and including the first three months of the present year:—

	1847.	1848.
January	$28,790 85	$32,340 21
February	20,004 56	29,474 06
March	25,137 38	33,390 89
April	50,223 47	66,827 81
May	52,509 76	68,482 27
June	50,339 88	52,178 75
July	57,865 31	53,406 17
August	65,546 30	69,671 22
September	66,078 48	69,755 40
October	52,534 68	55,124 83
November	38,257 48	45,400 98
December	33,595 88	33,849 65
Total	$534,834 22	$619,912 24
	1849.	1850.
January	$33,982 74	$41,036 24
February	33,615 69	36,738 69
March	38,924 60	47,347 64
April	66,505 57	80,866 58
May	84,375 45	95,880 82
June	63,906 21	84,032 79
July	56,633 86	86,883 45
August	60,528 96	94,682 54
September	90'540 32	106,754 23
October	84,082 11	95,412 52
November	63,006 29	*75,000 00
December	45,740 54	*50,000 00
Total	$721,842 34	$894,636 50
U.S. Mails, &c., [*Estimated]		*20,000 00
Total		$914,636 50
January, 1851		44,038 61
February		45,986 40
January and February, 1851		$90,025 01
March		77,775 93
Increase of Jan. and Feb. 1851 over 1850		$12,249 08

What Railroads do for Land.

The Wheeling *Times* says, that land along the line of the Baltimore and Ohio railroad in Virginia, has increased in the average 300 per cent., and the amount of land now being prepared for cultivation is greater than ever cultivated before. A farm in West Zanesville which had been offered for $12,000, has, since the railroad was located along its borders, been sold for $20,000. In Newark, Ohio, a tavern stand which had rented for $400, on the completion of the railroad rented for $1,800.

Extract from the Annual Report of the Board of Canal Commissioners of the Commonwealth of Pennsylvania, for the year ending Nov. 30, 1850.

The gross receipts on all the lines of canal and railroad belonging to the commonwealth, for the year ending the 30th of November, 1850, amounted to $1,768,209 46, and the expenditures for ordinary repairs and breaches, including the cost of the temporary means of maintaining the passage for boats across the Susquehanna river at Clark's ferry, $857,228, showing an excess of receipts over expenditures of the sum of $910,981 46. The net receipts of 1850 exceed those of 1849 by $36,204 61.

The past fiscal year has been remarkable for the number of high freshets with which the several several lines of canal yielding the largest portion of revenue have been visited. A succession of breaches occurred from the high waters in July, August, and September, by which the navigation of the main line, at its eastern terminus, and of the Susquehanna, West Branch, North Branch, and Delaware Divisions, was materially impeded by the time necessarily occupied in making extensive repairs.

To add to these calamities, on the morning of the 11th September the towing path and road bridge over the Susquehanna river, at Clark's ferry, was fired by an incendiary, and the superstructure totally destroyed, thus rendering it incumbent on the board to fit up, at a heavy expense, a steam towing boat, for the purpose of maintaing, as far as practicable, the speedy transit of boats at that point. These combined causes, as a matter of course, affected the revenues to a considerable extent, and added largely to the expenditures. The cost of repairs by floods, and the fitting up of the steamboat, irrespective of the loss of the superstructure of the bridge at Clark's ferry, amounted to $66,573 44.

The following statement exhibits a more detailed account of the receipts and expenditures than is contained in the foregoing abstract:

RECEIPTS FOR ALL PURPOSES.

Columbia Railroad.		
Philadelphia	$359,647 18	
Paoli	21,660 48	
Parkersburg	29,189 84	
Lancaster	66,985 74	
Columbia	160,657 31	
Schuylkill viaduct	307 00	
Total Columbia railroad		$638,447 56
Alleghany Portage Railroad.		
Hollidaysburg	$145,500 57	
Johnstown	96,316 88	
Total Portage railroad		$241,817 45
Main Line of Canal.		
Columbia, including outlet lock	$147,265 05	
Portsmouth	14,619 75	
Harrisburg	29,373 49	
Newport	4,407 70	
Lewiston	13,829 09	
Huntingdon	14,284 23	
Hollidaysburg	36,205 92	
Johnstown	60,772 73	
Blairsville	6,491 58	
Freeport	3,154 29	
Pittsburg	146,137 08	
Portsmouth outlet lock.	1,182 75	
Swatara bridge	275 00	
Duncan's Island bridge.	1,181 66	
Juniata aqueduct	89 07	
Freeport aqueduct	177 00	
Total main line canal		479,446 39
Delaware Division.		
Easton	$173,650 09	
New Hope	15,079 21	
" outlet lock	3,786 00	
Bristol	22,832 57	
Total Delaware division		215,347 87
Susquehanna, North and West Branch.		
Dunnsburg	$18,361 03	
Williamsport	16,787 04	
Northumberland	39,878 93	
Berwick	102,228 33	
Liverpool	15,894 86	
Total Susquehanna, North and West branch divisions		193,150 19
Total gross receipts on all the lines		$1,768,209 46

EXPENDITURES.

For maintaining motive power on the Philadelphia and Columbia railroad, including repairs and management of trucks, and purchase of one locomotive engine from motive power fund	$201,810 83	
For the purchase of 3 new engines from special appropriation per Act of 10th April, '49.	24,600 00	
For repairs of Philadelphia and Columbia railroad	71,466 39	
For collectors, weighmasters, inspectors, and incidental expenses of their offices	12,466 98	
		$310,344 20
For maintaining motive power on the Allegheny Portage railroad, including the repairs and management of State trucks, the purchase of passenger cars, and two new locomotive engines	$182,941 24	
For ordinary repairs on Allegheny Portage railroad	43,336 03	
For extraordinary repairs of inclin'd planes per Act of 10th May, 1850	18,579 94	
For collectors, weighmasters, inspectors, &c	2,992 96	
		247,844 17
For ordinary repairs on main line of canal	$101,242 18	
For breaches on main line	16,856 53	
For collectors, weighmasters, inspectors, &c	16,553 06	
For lock tenders	27,249 00	
		161,900 17
For repairs on Delaware division	$32,066 85	
For breaches on Delaware division	19,182 55	
For collectors, weighmasters, inspectors, &c	4,059 82	
For lock keepers	5,525 00	
		60,834 22
For repairs on Susquehanna division	$9,182 00	
For breaches on Susquehanna division	4,000 00	
For repairs on West branch division	12,548 72	
For breaches on West branch division	12,778 67	
For repairs on North branch division	12,000 00	
For breaches on North branch division	13,755 69	
For collectors, weighmasters, inspectors, &c	6,150 56	
For lock keepers	5,889 00	
		76,304 64
Total expenses		$857,228 00
Gross receipts		1,768,209 46
Net receipts over expenses		$910,981 46

Adding to the expenditures the pay of the canal commissioners, secretary, messenger, and the incidental expenses of their office, amounting to $5,300, the actual net receipts for the year 1850 are $905,681 46, being an increase over the net receipts for 1849, of $30,9e4 61.

The officers have been specially instructed to include in their reports the entire cost of repairs, whether paid or unpaid, so as to present to the

Legislature a correct statement of the actual cost of the public works for each financial year. It is believed that this direction has been faithfully observed. These reports form the basis of the preceding abstract, from which it will be seen that the expenditures for all purposes, exclusive of farm bridges, amounted to $862,528. In this statement, however, is included the extraordinary repairs to the inclined planes on the Allegheny Portage railroad, the purchase of six new locomotive engines, and the sum of $66,573 44, for repair of damages by floods and fire.

The report of the superintendent of motive power, and supervisor of repairs on the Philadelphia and Columbia road, exhibits a very comprehensive view of the condition and operation of that part of the improvements. His report on the motive power departments presents the following statement:—

The number of cars passed over the road in 1840, amounted to 140,394, exceeding the number passed in 1849, by 19,562.

The freight passed over the road amounted to 265,113 tons, being an increase over the last year of 45,632 tons.

The number of miles travelled by passengers was 8,060,278, equal to 98,296 through passengers over 1848, of 8646.

The number of trips run by locomotives was 8074, or 630,084 miles, an increase of 604 trips, or 47,112 miles over the preceding year.

Georgia.

Southwestern Railroad.—At a recent public meeting of the citizens of Savannah, at which the Mayor presided, to take into consideration the question of the subscription of $100,000 by the city towards aiding the construction of 21 miles of road from Fort Valley, to form a connection between the Southwestern and Muscogee railroads, the following resolution was passed unanimously:

Resolved, That the Mayor and Aldermen of the city of Savannah be requested to subscribe one hundred thousand dollars in city seven per cent. bonds, towards the construction of the twenty-one miles of railroad between Fort Valley and the eastern terminus of the Muscogee railroad.

Missouri.

Pacific Railway.—The directors of this company have determined to put 45 miles of the road immediately under contract, leaving the remainder to be located after the next Congress have time to decide upon the proposed grant of lands in aid of the work. There being three lines surveyed, as we understand it, either of which may be well adopted, from a point about 45 miles west of St. Louis.

Canada.

We learn from the Montreal Pilot that great exertions are making to complete the improvement in the Chambly canal, the link connecting Lake Champlain with the St. Lawrence river, by the Sorel river. It is added that the active competition between the Ogdensburgh route and the St. Lawrence renders the improvement of the canal of vast importance to Canada. About two miles and a half of the canal requires to be deepened throughout from 6 to 12 inches—and the locks of the canal must be proportionably elevated.

Virginia.

James River and Kanawha Canal.—We have received the 16th annual report of this great Virginia work. As the report is a very elaborate one, and embraces a great many matters that concern the company only, we shall present only such portions of it as are of public interest.

The whole amount of disbursemrnts of the company since its organization, on account of this work, have been $9,843,358 38. This embraces the sum of $76,243 14, which has been lost through agents of the company, or from non-payment of notes taken for stock; and also the sum of $141,813 44 cash on hand. The following shows the receipts of the company, and the sources whence derived:—

Income of old and new works		$2,436,241 50
Premium on bonds sold		42,125 13
From State loan of interest money		57,559 36
Income of Richmond dock		77,863 46
From capital stock	5,000,000 00	
Less:		
State's credit for old works	1,000,000 00	
Uncollected stock	71,536 08	
	1,071,536 08	
		3,928,463 92
From guaranteed loan	1,400,000 00	
From loanfor tide water connection	114,200 00	
From guaranteed loan for south side and Rivanna connections.	65,900 00	
From loan of state stock	250,000 00	
From bond given to the state	268,645 33	
		2,098,745 33
From sale of land received from the Old James river company.	28,484 46	
From rents and property sold on second division and on tide-water connection	534 58	
		29,019 04
From state's loan for resumption of work above Lynchburg—		
First instalment issued 1st July, 1847	242,000 00	
Second instalment issued 1st Jan., 1848	250,000 00	
Third instalment issued 17th Aug., 1849	250,000 00	
Fourth instalment issued 2d Jan., 1850	244,000 00	
Fifth instalment issued 9th March, 1850	250,000 00	
		1,236,000 00
Less amount unsold		105,100 00
		$9,843,358 38

There have been no dividends paid to private stockholders. These have been applied to the payment of the interest of the guaranteed bonds, or have been absorbed by the progress of the work.

There has been paid out for the maintenance of the old canal, the Kanawha road, the Blue Ridge canal, and for the improvement of the Kanawha river, the sum of $277,376 60; for the maintenance of the new canal from Richmond to Lynchburgh, $701,560 47; for repairs of the Richmond dock, $30,025 30. The charges upon the company for interest, etc., with the annuity to the old James river company, of $21,000 yearly, have amounted to $1,495,376 51. The construction of the canal to Lynchburgh has cost $5,192,855 07; expenditures above Lynchburgh, old and new, $1,507,680 26. The Richmond dock has cost $244,021 98, the tide water connection $92,439 33, south side connnections, $13,214 42, Rivanna connection $39,410 23, western surveys, $25,028 99.—There has also been expended the sum of $6,302 54 on the 3d and 4th divisions between Covington and the mouth of the Greenbrier river.

The productive works of the company at the present time are the—

Canal from Richmond to Lynchburgh.
Richmond Dock.
Rivanna connection.
Blue Ridge turnpike and ferry.
The Kanawha turnpike and river.

The receipts for the past year have been as follows:—

Richmond dock.	$9,531 65	
Expenses	3,816 73	
	net income,	$5,719 92
Canal fm. Richmond toLynchburgh	239,684 49	
Expenses	83,715 47	
	net income,	155,969 62
Blue Ridge ferry and turnpike	1,500 95	
Expenses	981 82	
	net income,	519 13
Kanawha road and river	19,172 73	
Expenses	15,727 10	
	net income,	3,445 63

The disbursements for the past year—not embracing work in progress—have been as follows:

Repairs, maintenance of canal, etc	$104,174 12
Annuity to old James river co	21,000 00
Interest on company's bonds, [$1,400,000] guaranteed by the State	85,971 00
Interest on company's bonds, [$250,000,] of March 25th, 1842	15,000 00
Interest on company's bonds, [268,645 33,] of 24th Feb., 1845	16,118 72
Interest paid State on bonds loaned under act of March 1, 1847	59,340 00
Interest on guaranteed bonds issued for tide water connection	3,204 00
Interest on guaranteed bonds issued for south side and Rivanna connections	1,968 00
Miscellaneous disbursements	4,455 30
Total	$311,241 85
Excess of disbursements over receipts	587 99

Making an aggregate of gross earnings of $269,889 82, and net earnings of $165,648 70. There has also been received, as applicable to the ordinary operations of the company, the further sum of $40,764 04, being the balance on hand at the commencement of the year, and premiums on bonds sold, etc.

The estimated expenses and income for the current year is as follows:—

For interest on state bonds, issued and to be issued for resumption	70,000 00
For interest on company's bonds, guaranteed by the State, [principal $1,400,000]	84,000 00
For interest on company's two bonds to the state	31,118 72
For interest on company's bonds, guaranteed, being for connections.	19,000 00
For annuity to old James river company	21,000 00
And for expenses of general administration, including the line to Buchanan, and for repairs	100,000 00
	$325,118 72

The company's resources for the same period, may be estimated as follows:—

Receipts on canal to Lynchburg	250,000 00
Receipts on dock, and from Rivanna and south side connections	25,000 00
Receipts on second division, from Lynchburg to Buchanan	25,000 00
Net receipts on western improvements, including Blue Ridge road and ferry	12,000 00
Miscellaneous sources, including debt and interest due from Gen. Hamilton, premiums on script sold, arrears of tolls on Kanawha river, and sales of Middleton mills and other property not required for purposes of navigation	100,000 00
	$412,000 00
Estimated net income	$86,881 28

The length of the canal now in operation, extending from Richmond to Lynchburgh, is 146

miles. That of the division in progress from Lynchburgh to Buchanan is 50 miles long. This portion of the line will probably be completed the coming season. For this, the company possess ample means. For the extension of the canal to Covington, 47½ miles, the State has agreed to guarantee the bonds of the company to the amount of $360,000, which is only about one quarter the probable cost. This section will not, we presume, be commenced till further means are provided, and probably by the guarantee of the State.

The total amount of freight which passed over the canal the past year is 177,381 tons, showing an increase of 2171 tons over the year preceding. The estimated value of freights is $14,000,000. The receipts are $10,034 29 less than those of the past year, and the expenses $9,625 18 greater. This unfavorable result is accounted for by the fact that the navigation of the canal was closed for a portion of the year, and that more than ordinary repairs were required.

That this canal will be carried to Covington, at the foot of the mountains, there seems to be not much doubt. Beyond that point its extension is very problematical. The report of the company unhesitatingly advocates its construction to the navigable waters of the Kanawha, and expresses a belief that no unsurmountable obstacle exists against carrying a water line across the mountains. It was the intention of the company to have had careful surveys made the past year, for the purpose of establishg the question of feasibility of a canal over the mountains. Unavoidable circumstances postponed this work to the present year.—We look forward with much interest to the result of these surveys.

A continuous canal from tide water to the navigable rivers of the Mississippi valley, has for many years been the favorite project of Virginia. In the outset, the practicability of this work was to a certain extent assumed, from its importance to the commerce of the country and the development of the resources of Virginia. As far as climate, length of line, importance of connection, and resources of the country traversed are concerned, the route occupied by the James river and Kanawha company is certainly equal, if not superior, to any rival work. The great obstacle in the way of success, is the unfavorable profile presented by the country through which the canal must pass.—Whether the difficulties arising from this cause can be overcome, remains to be demonstrated. Could Virginia open and maintain a work which could carry at the moderate rates of the Erie canal, the benefits to be derived from such a work, could not be estimated. The question for consideration is, not the possibility of its execution, but the ability of such a work to compete with those having a similar object. Rivals will exist from Maine to Georgia. Success will depend upon cheapness of carriage in relation to cost. This work might be carried to the Ohio, and still not pay the expense of keeping it in order. All considerations of State pride, all anticipations of future greatness, based upon the success of this work, must submit to the universal and despotic law, which always throws trade and commerce into the cheapest channels.

We should rejoice to see this work carried out if justified by the above tests. We hope further surveys may prove it to be practicable. But we confess, that to a person at a distance from Virginia, and uninfluenced by local consideratsons, the probability of its completion the Ohio is growing less. For a time this was the only subject of State bounty. All the internal improvement feeling was confined to it. Virginia looked upon this as the only work by which she could display and open to a market the wealth of the interior portions of her territory, and connect herself with the still more fertile regions of the west. A few years has witnessed a great change. Railroads have now become the popular enterprises of the day. These are practicable everywhere. Each section is absorbed in its own projects, and the interest which once attached itself to the James river and Kanawha company is now diffused over the whole State. The relative magnitude of this great work is wonderfully changed. It is now a supplicant with a great number of others, all clamorous for aid. Another cause operating adversely to the prospects of this, is the fact that popular feeling in Virginia is running strongly in favor of railroads. Those interested in railroads naturally array themselves to a certain extent against the canal. They look upon the aid extended to this as so much taken from themselves. It would not be surprising, therefore, if this interest should combine to put a stop to the further progress of the canal.

Whatever may be the result, it may be certainly said in praise of the friends of this work, that no body of men have adhered to a similar one, with a more steadfast devotion, or who have labored for success, and with it the good of a whole State, with greater singleness of purpose.

Census of Mississippi.

	1850.		1840.	
	Whites.	Slaves.	Whites.	Slaves
Northern District,	170,459	134,508	84,113	62,313
Southern District,	129,550	177,060	95,962	132,869
Total.....	300,009	311,568	180,075	195,182

The above is the official count, with the exception of Yazoo county, which is estimated. The increase in the northern district, it will be seen, in the last ten years is 108 per cent.; in the southern district about 32 per cent. The increase of the State taken together is over 61 per cent., largely outstripping even that of Georgia. The total population of Mississippi is now 611,577; her representative population is 486,949, which will entitle her to five members of the lower House of Congress for the next decade.

Alabama.

Mobile and Ohio Railroad.—The Mobile Tribune states that the agent for the state of Alabama has just completed, under the provisions of the act of Congress granting lands to the state within her borders to aid in the construction of the Mobile and Ohio railroad, the selection and location of 396 sections or square miles of land from the public domain of the United States. The land thus secured is equal to 253,440 acres, the most of which, from its contiguity to Mobile, is very valuable. A great deal of it consists of alluvial lands on the margins of Mobile, Spanish, Tensa, and Apalacha rivers, and islands composed of shells and marls, all above overflows, and it is susceptible of cultivation and exceedingly fertile. The remainder consists of high and dry pine lands lying west of the city and along the line of the road, and in Baldwin county.—Taking these lands as a whole, they may be safely estimated to be worth $3 per acre.—This valuable donation will be owned and fully under the control of the company, as soon as that part of the Mobile and Ohio railroad lying within this state shall be completed.

The lands selected as above comprise only that portion of the grant lying within the state of Alabama. The whole grant, we believe, covers some 2,000,000 acres.

Virginia.

Blue Ridge Tunnel.—Mr. Imboden, of Augusta, in the House of Delegates, Saturday, submitted a statement by Col. Crozet, showing the condition of the Blue Ridge Tunnel on the 5th instant. It appears that the whole distance penetrated at the Eastern end is 94 feet, and the total number of cubic yards excavated 942 feet. The progress of the heading from the 5th February to the 5th March was 22 feet, of the flooring, 32½ feet, or one and a half foot forward each working day, through the hard rock. On the West Side, the progress of the heading in the mouth was 21 feet, of flooring 24 feet; total progress of the heading on the West side, since August, when the work commenced, 224 feet; total number of cubic yards excavated on the West side, 1237. The flooring on this side entered the tunnel only last month.—*Richmond (Va) Times.*

New York.

Railroad Route from Oswego to Rome.—The engineer of the Watertown and Rome Railroad has lately been engaged in surveying a route from Watertown to Oswego, passing near the village of Pulaski. From a point called the "Sand Banks" to Oswego is twenty-seven miles, which is supposed will be the shortest and cheapest route from Oswego to Rome. Oswego is moving in the matter as are others along the route as well as those interested in lands in that quarter. Gerrit Smith has subscribed eight thousand dollars, and other gentlemen quite as liberally. Pulaski has added several thousand dollars to the list of subscriptions, and from present appearances it would seem the road was destined to go on to completion.—*Syracuse Star.*

Virginia.

Richmond, Fredericksburgh and Potomac Railroad.—The following is a synopsis of the 17th annual report of this company, submitted at a meeting of its stockholders held at Richmond on the 27th of May, 1850:—The cost of this road up to the 31st of March last was $1,509,471,62; its income for the year ending same date was $237,963,-74, which is an increase of $39,009,16 on that of the previous one. The current expenses of the year were $108,323,67. This gives a balance as nett earnings of road of $129,640,07. After paying out of this sum $90,504,21 for dividend of seven per cent, and charges for interest, the company were enabled to expend $26,271,08 for additional machinery and improvements of road, and at the same time, increase to the amount of $12,864,18 their available means, for the payment of the usual dividend, should there be a falling off of income in any particular year. The fund set aside for this last purpose amounts to $116,424,60. The capital stock of the company is put down at $1,000,000, and is made up of 10,000 shares, 7,000 of old, 3000 of new stock. Of the old stock, 2952 shares were subscribed for by the State, and the remainder by individuals. The receipt of the company since commencement of the work for transportation are stated at $2,397,607 25. The expenses during the same period for transportation, interest, and certificates of debt, amount to $1,740,098, 77. The amount of cash on hand to 31st March, 1850, was $27,656,16. The debts of the company amount to $650,519,37. Of this sum $17,513,76 are for debts due by bills and open account, the residue are on bonds and certificates of debt for dividends. The amount now due the company is $137,844,66. The assets of the company are as follows, stock purchased $27,678,53, Washington and Fredericksburgh steam-boat stock, $27,800; do. bonds $33.900, and sterling bonds $2.592. Total, $91,970.53. It is intended by the board of directors, should the income of the company for the current year equal that of the past, to continue making

improvements on the road, both by the laying of a heavier and more substantial rail on a portion of the route, and additions to the machinery.

Georgia.

Macon and Western Railroad.—From the fifth annual report of the directors of this company, submitted to the stockholders on the second day of December last, it appears that the cost of the road up to December 1st, 1850, amounted to $630,000. The income of the road for the past year was $208,666,13, and its expenses $108,234,69. The amount of assets of the company on hand are stated at $103,030,93; or deducting $4,487,03 for liabilities, $98,543,90. Of the earnings of this road $96,506,92 have accrued from freight, and $100,433,79 from passengers. The available balance on hand is $38,803,90 The dividends, No. 7 and 8 amounted to $67,500. On the 5th of June last the stockholders authorized the President of the company to contract for the iron, &c., for the relaying of the track, the cost of which was estimated at $388,500. This includes iron rails, spikes and plates, and expenses of relaying. This sum is to be raised by issuing 4625 new shares of stock, at $84 per share, the par value of the original shares. Books have been opened for this purpose, and up to date of report all the new shares have been taken, with the exception of 13,00. These it is anticipated will speedily be disposed of. The earnings of the road upon completion of all connecting lines, now in course of construction, is estimated at $250,000, or a net income of $150,000, after deducting expenses, or about 14¼ per cent. on the whole capital.

Tolls on the Ohio Canals.

The Cleveland Plaindealer gives the following reduction on canal tolls on the Ohio canals:—On flour, wheat, whiskey, and articles of Produce generally, except corn, upon which the reduction at this time is less. The tolls are to be seven mills for 1,000 lbs., for the first 100 miles, and four mills for the second 100 miles; and not to exceed $1 per 1,000 lbs. for any distance on the canal, with a reduction of 30 per cent on those rates, on produce from Newark to Cleveland, and 40 per cent from Columbus to Cleveland. Salt and fish the same rates. On merchandise twelve mills per mile, and not to exceed $1 70 per 1,000 lbs. for any distance, with a like reduction of 30 and 40 per cent as above. The tolls on lumber are also materially reduced.

Pennsylvania.

Leggett's Gap Railroad.—A supplement to the charter of the Leggett's Gap railroad company passed the House of the Pennsylvania Legislature on the 17th inst. by a large majority. The road is to extend from Providence, Luzerne county, to Great Bend, Susquehanna county, there to intersect the New York and Erie railroad. The supplement authorises the company to increase their capital stock $900,000, or "in lieu of the same or any part thereof, to issue bonds or certificates of loan, and in such case the directors shall have the power to give the stock, bonds and certificates thus issued such preference, by mortgage or otherwise, over the original capital stock of the company, in the amount and payment of dividends and interest, not exceeding seven per cent, as they shall deem expedient. Provided, That to the extent of any sum of money, which shall be subscribed to this increased capital stock, the company shall be taxed one per cent, payable in every case at the end of one year after the date of such subscription to be appropriated to a redemption of the loans of this commonwealth. Provided, That it shall not be lawful for the said company to evade the payment of any of its obligations by virtue of the plea of issuing against the party who may sue for the same."

Maine.

Penobscot and Kennebec Railroad.—We copy from the Bangor Whig a part of the statement of G. W. Pickering, Esq., at the recent meeting in that city, relative to this road and the propositions that have been made by other companies:—

In the location of the road from Waterville to Augusta, there is an understanding that when the arrangements shall be completed with the Androscoggin and Atlantic and St. Lawrence roads, then this company will relinquish to the Portland and Kennebec road the route from Waterville to Augusta, with the condition that they shall complete that portion of the road as soon as this road is completed to Waterville.

The purpose of the directors of this road was to throw upon the roads west of it the risk of the stock of this road paying six per cent interest.—And in accordance with this purpose, they have entered into an agreement with the directors of the Androscoggin and Kennebec and the Atlantic and St. Lawrence roads, to take a lease of this road for twenty years, paying therefor an annual rent of $75,000 and keep the road in repair. This agreement has been ratified on the part of the stockholders of the Atlantic and St. Lawrence road, and is soon to be acted upon by the stockholders of the Androscoggin and Kennebec road. [The meeting at Winthrop last week adjourned without ratifying.

Mr. Pickering said that the guaranty of the two roads were deemed perfectly good, and that parties interested in those roads had expressed a willingness to take one-half the stock and dispose of it among their friends. But even if the two roads should not pay the rent of the road, and thus their guaranty should prove worthless, the investment was safe because a similar arrangement could be made with the Augusta road.

He stated that certain parties had proposed to build the road for $1,250,000, the amount upon which the two roads agree to guaranty six per cent; they will take half the stock of the company and the balance in cash. The directors believe that the road may be built for this sum, but there are some other additional expenses which must be provided for. and this has been anticipated by a qualifying clause in the agreement, by which, at the same time, additional stock could be created not to rely upon the guaranty.

Mr. Pickering gave it as the opinion of the directors, after much inquiry and examination that the road can be built, provided the citizens of Bangor will take two hundred thousand dollars of the stock. The contractors for building the road propose to take $600,000, the citizens of Bangor $200,000, the people on the line of the road $100,000; while the balance of $350,000 could be raised by the issue of bonds with a guaranty of six per cent for twenty years, and they could be disposed of without difficulty. This would secure the immediate conclusion of the agreements, and the shovels could be put at work the next summer and in eighteen months from next July the road could be opened.

Tennessee.

Nashville and Chattanooga Railroad.—We find in the Charleston Mercury a letter from V. R. Stevenson, Esq., the president of the company, addressed to the Mayor of Charleston, Honorable J. Schnierle, giving a brief account of the progress of this important work. We give below the following extract:

Our work is progressing finely. We have 12 miles of iron down, and about seven miles more of timber laid ready, and will in this way have within three weeks 21 miles ready, iron and all, and be running over it. We had yesterday between 300 and 400 passengers on the road. I am satisfied that we shall do an immense passenger business.

We have a good prospect now of a road to Louisville, Ky., to Cairo, and to Memphis, Tenn., all of which will most certainly be under way within the next twelve months.

We find the whole valley of the Mississippi directing their main lines of improvements to Nashville, and by that hoping to reach an outlet to their surplus products through Charleston; and I have consequently watched, with interest, the movements of your state and city in preparing for direct shipments and imports, by which your city will be raised to a most enviable position in the country. If you will examine the census returns, you will see that the country immediately surrounding Nashville, say Alabama, Mississippi, Missouri, Illinois, Indiana, Ohio and Kentucky, are growing with a giant stride unheard of in the annals of man, and our road, with the roads making and contemplated from all these directions, will place Charleston nearer to the principal cities of these states than any Atlantic port north of it; and the disastrous casualties on the waters of the Mississippi recently, contribute to develop and forward this natural tendency to reach the Atlantic at the nearest point, and we are at Nashville, preparing ourselves to forward this tendency by subscribing liberally to improve the river, and to the three railroads, one from Louisville, one from Cairo, and one to Columbus, Tennessee, and on to the Big Bend of the Tennessee river.

East Tennessee and Georgia Railroad.—We learn that regular daily trips are made on this road from Dalton, Ga., on the Western and Atlantic railroad, ten miles. For this distance, the mails, passengers and freight are being transported, the receipts for which already cover expenses. When the road is completed to Blair's Ferry, it is expected it will yield a handsome profit.

OFFICE OHIO AND PENNSYLVANIA R. R. Co.,
Pittsburg, March 22, 1851.

H. V. POOR, ESQ.,

Dear Sir: The laying of the track of the Ohio and Pennsylvania railroad from Pittsburg to Massilon, a distance of 107 miles, was allotted yesterday to Bailey, Hayden & Co., of Massachusetts. You will find a notice of the letting in the Pittsburg Gazette of to-day. The contractors are highly recommended as able and energetic men, who have had much experience in laying track in New England.

If the contractors for delivering materials comply with their contracts, the track is to be laid from Pittsburg to New Brighton, 27 miles, by the 1st of July; to Alliance, 81 miles from Pittsburg where our line intersects the Cleveland road running to Wellsville, by the 1st of October; and to Massillon, on the Ohio canal, by the 1st of November of this year.

A large amount of our iron is already delivered, and our engines are to be ready by the first of June. Our grading is in a very forward state, much of it being completed, and the fruit of our toil is fast ripening to our hands.

We confidently expect to accomplish our connection with Cleveland, and through Cleveland with Columbus and Cincinnati, in the autumn of this year. The distance by this route from Pittsburg to Cincinnati will be 390 miles, and the roads are all of the Ohio gauge of 4 feet 10 inches. It is a circuitous route, and yet it is nearly a hundred miles shorter than the distance by the Ohio river, and of course can be run in much less time. The distance will be shortened to about 340 miles when our western connections are completed.

When the western division of the Pennsylvania railroad is completed in the spring of next year, New York will have a continuous railroad connection with Cleveland, about thirty miles shorter

than by the New York and Erie railroad and the Lake Shore line, and seventy miles shorter than by Albany and Buffalo. This choice of routes will benefit the public, and make much of the travel move in a circular manner, people going one way and returning another. Our rich and heavy local business will support our road, and make it a strong competitor for the through travel.

We feel much obliged to you for the kindness with which you have, from time to time, noticed our labors.

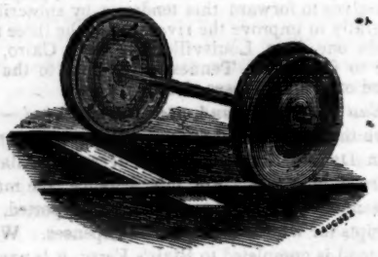
Very respectfully and truly yours,
S. W. ROBERTS, C. E.

Boston Locomotive Works,

—*Late Hinkley & Drury*—
No. 380 Harrison Avenue,
BOSTON.

Locomotive and Stationary Steam Engines; Boilers; Iron, Brass, Copper and Composition Castings; Coppersmith's Work, and all kinds of Railroad Machinery furnished at short notice.

ALSO



Van Kuran's Improved Rail-Road Wheel,

Patented May 1, 1849. Manufactured under the personal superintendence of the Patentee, as above.

Orders for any quantity of wheels executed with dispatch, and wheels and axles fitted in the very best manner and at the lowest rates. Address
DANIEL F. CHILD, Treasurer, Boston.

To Engineers and Ship Builders.

THE Advertiser is desirous of a situation in a respectable concern, he has acquired a practical knowledge of his business in the establishment of R. Napier, Esq., Glasgow, has since for several years had the management of the works of an extensive Steam Packet Co., for whom he designed and built some Iron Screw Ships, whose capabilities and performances give the highest satisfaction. While acquainted with all the most approved modes of construction of marine engines, he is prepared to submit original designs. In modelling and draughting he has had much and successful experience. Can produce the highest testimonials as to character and abilities from the first engineer on the Clyde.

Address ENGINEER, box 2315 lower postoffice.

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CAMBRIDGE MASSACHUSETTS.

SPECIAL Students attend daily from 9 o'clock A. M. till 5 o'clock P. M., in the Laboratories, and under the direction, of the following Professors:

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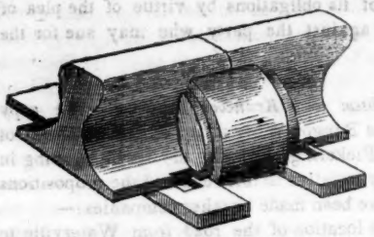
Instruction is also given by Prof. Peirce in Mathematics, Prof. Lovering in Physics, and the Messrs. Bond at the Astronomical Observatory.

All lectures delivered to under graduates of the College are free to members of the Scientific School.

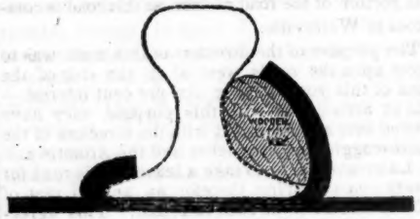
For further information apply to
E. N. HORSFORD, Dean of the Faculty.

Railroad Iron,

SPIKES, AND
WROUGHT IRON CHAIRS.



THE Undersigned, Agent for Manufacturers, is authorised to contract for Welsh *Railroad Iron* of the best quality, and deliverable at any port on favorable terms, also *Spikes and Wrought Iron Chairs*, made from the best iron, and of any pattern and weight. The new Wrought Iron Chair, with the introduction of a "Key," as per the annexed plan, will be found a great improvement on the old pattern.



Boiler Plates of superior quality, perfect regularity in the squaring and thickness, and made with great care.

Samples can be seen at the office, No. 20 Beaver st.
CHARLES ILLIUS.

Car Wheel Iron.

THE celebrated cold blast "Conowingo" Pig Iron, for Railroad Wheels, Chilled Rolls, etc., for sale by
E. PRATT & BROTHER,
Baltimore, Md.

AMERICAN RAILROAD JOURNAL.

Saturday, March 29, 1851.

The Stock and Money Market.

Since our last, the prices of railroad securities have gradually receded. A reference to our tables will show a large decline in some of our leading stocks. The market is in an unsettled state, and though money is abundant in the ordinary and regular channels of business, it is scarce for purposes of speculation, and there is strong disinclination to the purchase of bonds of new works. There is a feeling of uncertainty as to the future, and this induces capitalists to stop operations till they can see more clearly the probable tendency of things. So many new elements enter into our calculations for the future, such as the amount of our foreign endebtedness, the influence of the immense call for our railroad enterprises, the receipts of gold from California, that the past is but a blind guide for future operations. The public mind is very often kept in an excited state, when there is no reason for alarm. We would advise our country friends to keep out of the market for the present. In a short time the immense amount of bonds which have been recently thrown upon the market, will gradually find their way to the holders for investment, and thus create an opening for a new supply. A few weeks we believe will witness a favorable change, of which we will give our readers timely notice. The quickest and surest way to improve the market, is to guard against overstocking it.

The rail market remains without much change. Quotations are all the way from $41 to $43 and 4, according to the views of sellers in reference to the future. If a check should be given to the negotiation of bonds, it would have the effect to keep down the price of rails.

SALES OF STOCK IN NEW YORK.

	March 19. Sales.	March 26. Sales.
U. S '67 Loan.....	115¼	116
Erie R.R.....	81	79½
Harlem R.R.....	68½	67½
Stonington.....	41½	41
L.I. R.R.....	23½	22½
Norwich & Wor....	63½	61½
Del. & Hudson.....	129½	129½
Reading	59½	54½
Morris Canal.....	18½	18½
Erie income	93½	92½
" " Bonds.	103	104
Canton.....	62	62
Farmers Loan.....	63½	64

SALES OF STOCKS IN BOSTON.

	March 18.	Mar. 25.
Old Colony Railroad.....	69	68¾
Boston and Maine R.R.....	104½	105¼
Eastern Railroad.....	102¾	103½
Fitchburg Railroad.....	111¾	111½
Michigan Central Railroad.....	94½	92
Northern Railroad.....	70¾	70¾
Vermont Central Railroad.....	34½	34½
Vermont and Mass. R.R.....	29	28½
Western Railroad.....	105	104¾
Ogdensburg Railroad.....	39	38½
Rutland Railroad.....	59	58½
Boston and Worcester Railroad.	103¾	103½
Rutland Railroad Bonds.....	88	85
Ogdensburg Railroad Bonds.....	97½	99
Vermont Central R.R. Bonds....	92½	92
Boston and Providence R.R.....	83¾	84
Philadelphia, Wilm'gton & Balt.	30½	29½
Concord R.R.....	56	56
Manchester and Lawrence.....	90	90

To Contractors.

ENGINEER'S OFFICE CENTRAL OHIO R. R.,
Zanesville, March 20, 1851.

SEALED PROPOSALS for the Masonry of a Railroad Bridge across the Muskingum River at Zanesville, will be received at this office until the 15th of May next.

Also for the Iron or Wooden Superstructure of said Bridge, and for draw bridge across the Canal.

Plans and specifications furnished on the 1st of May next. Bidders may furnish their own plans and specifications, if filed at this office prior to that day.

By order of the Board.
ROBERT MAC LEOD,
Chief Engineer.

Memphis and Charlston Railroad.

The estimated cost of this road is $2,800,000, the whole amount now subscribed toward the same is $2,300,000, leaving only $500,000 to be provided for.

Pennsylvania.

Susquehanna Railroad.—The Senate of Pennsylvania, on Friday last, passed the bill to incorporate the Susquehanna railroad, by a vote of 21 years to 8 days. The bill gives power to build a road commencing at, and connecting with the York and Cumberland railroad, or with the Pennsylvania railroad, on either side of the river Susquehanna, with the right to connect the same with both or either of said railroads, and running through Millersburg, Dauphin county to Sunbury; from Sunbury to a point at or opposite Williamsport, Lycoming county, or either bank of the west branch of the Susquehanna, and to a point at or opposite the borough of Wilkisbarre, Luzerne county, on either bank of the north branch of the Susquehanna, and to connect their railroad with any railroad constructed or to be constructed in the counties through which the same may pass.

Indiana.

Central Railroad.—At the election for directors for this road (the eastern division of the Richmond and Terre Haute railroad) recently held at Centreville, the following gentlemed were elected by the stockholders:

Thomas Tyner,	John S. Mewman,
Samuel Hannah,	J. R. Mendenhall,
Williams Petty,	A. C. Blanchard,
Orlando Crane,	David Commons,
Norris Jones,	Wm. Butler,
Jas. P. Foley,	John White,

Nathan Brawford.

M. Jules Coutin, a gentleman connected with the Board of Publie Works of France, recently arrived in this city, under a commission from the French Government, for the purpose of examining the railway system of the United States—our mode of constructing and operating these works. M. Coutin will visit every portion of the Union for the purpose of collecting statistical information having reference to railways. He leaves New York this this week, on his way south.

We have had the pleasure of making the acquaintance of this gentleman, and take some pride in learning that the French Government watch with great interest the progress we are making in our magnificent lines of intercommunication. As we have no secrets connected with the management of our railroads, we hope those having charge of them, will extend to M. Coutin every facility in their power, to enable him to accomplish the object of his mission. We are now, both in extent of line completed, and in progress, the first nation in the world in railroad enterprises. We believe we may claim the same superiority as far as their usefulness, and the excellence of their management are concerned. We should respond to the compliment paid us by the older nations of Europe, in communicating every thing that has contributed to our success. We commend M. Coutin to the good offices of our railway friends.

Georgia

South Western Railroad.—The portion of the line of this road now under contract extends from Macon to Oglethorpe, a distance of 51 miles; tho' it is intended ultimately to be pushed to the Chattahoochee river, at Fort Gaines, probably. On the division in progress, the grading and masonry is nearly completed. The wooden superstructure for 33 miles is already laid, upon ten miles of which the iron is placed. The iron for this division has been purchased, and is being delivered along the line, and nothing now stands in the way of its early completion.

The present means of the company amount to $567,353 44, and are derived from the following sources:—

Georgia Central railroad	$250,000 00
City of Savannah	150,000 00
Contractors, in work and materials	87,266 00
Individual subscriptions	80,087 44
	$567,352 44

One object of this road was to give an Atlantic outlet to the south western portions of Georgia, which, though one of the most fertile and productive in the State, is at present isolated from the great lines of railroad already in operation. Its productions and trade of course followed the direction of its rivers, to the gulf. On the completion of this road, the city of Savannah expects that the cotton now raised in the south western counties will be taken to that city for exportation. If this object should be effected, a largely increased am't of freight would be thrown upon the Central railroad. Should this road be extended to the Chattahoochee, it would form a part of a great through route, from the Atlantic west, to Mobile and New Orleans. This object is likely to be speedily effected by the construction of the Muscogee railroad, extending from Columbus east, 50 miles, which is to be met by a branch of 21 miles, to be built by the South Western railroad, the means for which are already provided, as will be seen by reference to our last paper. From Columbus to the Montgomery and West Point railroad, at Opelelka, the distance is only 30 miles. Surveys are now in progress between the last named points, and from the importance of this connection, it is believed it will soon be supplied. These different railroads would give a continuous line from Savannah to Montgomery and the navigable waters of the Alabama river. Should the Girard railroad, which extends from Columbus in an almost straight line to Mobile, be constructed, of which there seems now to be a strong probability, a very direct route would be formed from the Atlantic to Blakely, opposite Mobile, a distance of 526 miles. The whole amount of receipts up to the present time, (including debt to the Central railroad of $12,168 61) have been $581,179 13. The expenditures, (including $32,099 50 cash on hand,) amount to the same sum. The officers for the present year are L. O. Reynolds, H. A. Chappell, of Macon; R. R. Kuyler, J. W. Anderson, Savannah; W. A. Black, Sumter county; and David Kiddo, of Randolph; F. P. Holcomb, Chief Engineer.

Indiana Railroads.

The cars are now running upon 245 mils of railroad in Indiana, and by the close of the year full 500 miles will be in operation.

The Terre Haute company have procured the T rail to lay their road to Indianapolis this season, 72 miles—the Lafayette company have sold their bonds, and purchased the heavy T rail to lay their road 66 miles—the Peru road is in operation over a good flat bar, to Noblesville, 22 miles, and is progressing north preparatory to the superstructure; this road is 66 miles in length—the Jeffersonville road is now run 15 miles, and will be completed to Columbus this season, from which place it is being constructed direct to Shelbyville, where it intersects the Knightstown road, which is to be extended through New Castle to Muncie.

The New Albany company are running cars some 30 miles to Salem, and are pushing their road forward to Gosport with much energy, from which point it is to be extended up White river to Indianapolis.

The Evansville road is progressing to Princeton, to be ultimately extended to Indianapolis by Vincennes or Gosport.

The Shelbyville road, 16 miles, the Rushville road, 20 miles, and the Knightstown road, 26 miles, are in operation over a good flat bar, and doing a fair business.

The Lawrenceburg road is to be completed to Greensburg this season, and ultimately to Indianapolis, through Shelbyville.

The Richmond, Hagerstown, and Newcastle road is being graded west of Richmond, and is to be extended west to the Bellefontaine road at Pendleton or Anderson, and ultimately to the Lafayette road, under the amended charter.

The Richmond and Indianapolis company, have organized under their new charter, by which the Terre Haute and Richmond road is divided at Indianapolis, and elected Samuel Hannah, Esq., President of the company.

The Martinsville and Franklin road is being laid with the flat bar, and will probably be completed.

The Crawfordville company are waiting the arrival of the T rail, contracted for in England, to complete the road to Lafayette.

The Madison company are taking up the balance of the flat bar on their road, and laying the heavy T rail, preparatory to the heavy fall business that must be thrown upon the road.

The Junction road is being located from Connersville, on the direct line to Cincinnati, leaving Hamilton, Oxford and Dunlapsville to the north of the line.

The Bellefontaine company are laying the heavy T rail from Pendleton to Anderson, and will extend the road to Muncie this season, and to the Ohio line the next. 28 miles of this road are in daily use, and the cars will be at Anderson early in May.

The Ohio and Mississippi company, contemplate pushing their road from Cincinnati to St. Louis, (running from Lawrenceburg to Vincennes, through our State,) as soon as possible.

The above does not comprise all the roads in Indiana, in progress and contemplated, but will suffice to give our readers some idea of what we are doing in railroad matters.—*Sentinel.*

Mississippi, March 7, 1851.

H. V. Poor, Esq., Editor of American Railroad Journal:

Sir—Can you inform a subscriber through the columns of your Journal what progress is making with the Wilmington and Manchester railroad? I am inclined to believe that a good deal of travel would be attracted to that line, and the interests of the company subserved materially by bringing it into notice before the southern travel commences. If the cars could accomplish part of the line, and good stage coaches the rest, it would soon see its profit in establishing the line. Thousands who would adopt what is called the "southern route," are deterred by the outside navigation between Charleston and Wilmington.

A very pretty speculation is now offered to capitalists by the State of Mississippi. It is known to you that a railroad is in operation from Vicksburg, on the Mississippi river, to Jackson, the seat of government. The State is now at work on a road from Jackson to the Alabama line (State-line,) having pushed the road from Jackson to Brandon, a distance of 24 miles, on which the cars run daily. She has sixty Negro men at work, grading the road eastward to the line dividing Mississippi from Alabama, and proposes to give the finished road, Negroes, cars, locomotives, etc., etc., valued at three hundred thousand dollars, to any company or association that will undertake and finish the road within five years. It is a little over two hundred miles from Brandon to Montgomery, Ala., and if this road was made, and the Wilmington and Manchester finished, the line of railroad would be perfect from your city to the Mississippi river.

The ground is most favorable, being nearly level the whole distance, and abounding in the best quality of timber for making the road and bridges, yelow pine. You perceive one great advantage this route would have over the western in the win-

er season, and the entire absence of ice and snow, to injure or obstruct the travel.

I am told the charter is a very favorable one, and the bonus of $300,000 is certainly a handsome item to begin with. Yours,

A. SUBSCRIBER.

—

The Wilmington and Manchester railroad is making good progress, with nearly the whole line prepared for the iron. A portion of this is already purchased, and arrangements are being made for the balance. The road being some 160 miles long, is no slight undertaking, and we suppose a year or more must elapse before the connection between the Wilmington and Raleigh, and the South Carolina railroads is completed.

With regard to the "Southern Railroad," we agree with our correspondent that a very good inducement is offered for the completion of the road to the Alabama State-line. By the time that the Wilmington and Manchester railroad is completed the only break to a continuous line of railroad from Maine to the Mississippi river will be the link between Montgomery and Brandon. We have long wondered that the construction of this has not attracted more attention. It is through one of the most beautiful and productive portions of the south, presenting every facility for cheap construction. Will not some of our enterprising contractors look to this matter?

New York, March 26, 1851.

H. V. POOR, ESQ.,

Dear Sir—Knowing the interest you feel in the public works of Ohio, that are calculated to develope her vast mineral, as well as her agricultural wealth, I take the liberty of sending to you for publication, the following letter of Prof. Mather, in reference to the iron and coal regions of the southern part of Ohio, and the roads in progress for the purpose of making them available. To his communication, I have added a list of the iron furnaces now in blast in the neighborhood of Portsmouth, the southern terminus of the Ohio canal.

Yours truly, J. DILLE.

—

Columbus, Ohio, January 30, 1851.

J. DILLE, ESQ.,

My Dear Sir: I received your letter some days since, requesting a sketch of the mineral and agricultural resources of the counties of Jackson, Vinton and Hocking, along the route proposed for the extension, northward from Jackson, of the Scioto and Hocking Valley railroad, and the agricultural resources of the Hocking valley generally. I have delayed answering in consequence of the pressure of other duties, and in the hope that the agricultural statistics might be examined into and made more reliable.

The route of the Scioto and Hocking Valley railroad is located and partly under contract, from Portsmouth, on the Ohio river, at the outlet of the Ohio canal, to Jackson, in the heart of the coal and iron region. There are 23 iron furnaces between Jackson and the Ohio river, that make in the aggregate 40,000 tons of pig iron annually, nearly all of which is hauled over bad roads to the Ohio river, at an expense of from $1 to $3 per ton.

Another railroad is under contract, the grading done for 7 miles, and the rails laid for 3 miles, leading from the new town of Ironton, on the Ohio, northward toward Jackson, and will unite with, or run parallel and contiguous to the Scioto and Hocking Valley railroad, from about 90 miles south of Jackson, to the latter town. Both of these roads, previous to and after their junction, pass through the richest part of the coal and iron region of Ohio. From Jackson, the Scioto and Hocking Valley railroad can take two routes; one leading northwest to Richmoud and Chillicothe, and thence on to Lancaster and Newark; or north by McArthurstown, and Logan, to Newark. The first of these routes leads through the choice part of the coal and iron region, about 40 miles, while the latter from Jackson leads through a country underlaid by coal and iron ore, of qualities but little inferior, at least 80 miles.

Should the Scioto and Hocking Valley railroad adopt the latter route, the Ironton railroad would probably be constructed to the Scioto Valley at Chillicothe, or unite with the Belpre and Cincinnati railroad at Richmond, 15 miles east-south-east of Chillicothe. All three of these railroads are intended to traverse, more or less extensively, the vast deposits of coal, iron ore, and other useful minerals, which require only facilities for transportation, to open inexhaustible sources of wealth to an enterprising and industrious population. So strongly do the people of Jackson county feel the importance of such facilities for rendering their mineral wealth available, that they voted by an overwheming majority, in April, 1850, to aid the Ironton railroad company by a county subscription of $100,000, and the Scioto and Hocking Valley railroad company; if united with the other, the subscription should be applied to their joint road in Jackson county. These two roads would transport at least 30,000 tons of iron annually, as soon as completed to the Ohio river, and northward to the central and northern parts of Ohio. These railroads would afford such facilities for transportation as to induce the construction of many more furnaces along its line, and within a few miles throughout the iron region, so that this business would be greatly extended all through that district. The facilities for making iron throughout the region are as great as where the furnaces are located, except the transportation, and this objection will be obviated by the railroads.

The mining and transportation of coal would be even more important item of freight than the iron. The transportation of lumber, limestone, burr mill stone, marble, fire clay, etc., would be a source of some income. Jackson county now exports 150,000 bushels of wheat, and considerable quantities of beef, pork, butter, and various agricultural products.

For details of my reasons for supposing that a railroad, if constructed, would from the present business pay good dividends, that the business would rapidly increase, that the mineral resources would soon come into a rapid process of development, that these resources are practically inexhaustible, and that the mineral region penetrated and traversed by this railroad must be *the* great centre of the manufacturing interests of Ohio, I must refer you to my letter to J. V. Robinson, published in the Portsmouth Inquirer April 22d, 1850; and my letters to A. B. Walker, and to W. P. Cutler, in answer to letters of inquiry upon the mineral resources, which were published in Mr. Cutler's report to the Belpre and Cincinnati railroad company in 1848.

The three letters referred to cover the ground of your inquiries, except the agricultural statistics, for which you can refer to the agricultural reports of the State board.

I have the honor to be
Your obedient servant,
W. W. MATHER.

List of Iron Furnaces in successful blast within 40 miles of the City of Portsmouth, Ohio.

IN SCIOTO, JACKSON, LAWRENCE AND GALLIA COUNTIES, OHIO.

Names of Furnaces.	Owners.	Blast.	Usual am't made in tons.	Capacity to make.
Scioto	Imly, Smith & Co	Hot.	1800	2000
Bloom	Adams, McKennel & Co	"	1800	2200
Jackson	R. M. Tewksbury & Co	"	1500	2000
Olive	Campbell, Peters & Co.	Cold.	1800	2200
Ohio Clinton	Gliddon & Co	Hot.	1800	2000
Buckhorn	Willard, Suley & Co	"	2000	2500
Franklin	J. F. Gould & Co	"	2000	2500
Junior	Gliddon & Co	"	2000	2500
Empire	"	"	2000	3000
Centre	C. B. Hamilton & Co	"	2000	2500
Union	Linton & Means.	"	2000	2500
Ohio	"	"	2000	2500
Vesuvius	Dimpsey, Rogers & Co.	"	1500	1800
Mt. Vernon.	Campbell, Ellison & Co	"	2000	2500
Etna	Dempsey, Rogers & Co	"	2000	2500
Pine Grove	Hamilton, Peebles & Co.	Hot.	2000	2500
Lawrence	Culbertson, Means & Co.	"	2000	2500
Hecla	Henry Blake & Co	Cold.	2000	2500
Keystone	Green, Griswold & Co	"	1500	2200
Lagrange	Chestnutwood & Hazlett.	Hot or cold.	1500	2000
Gallia	Bently, Thompson & Co	Cold.	1800	2000
	IN LEWIS, GREENE AND CENTRE COUNTIES, KENTUCKY.			
New Hampshire	Powell, Andre & Co	Hot.	1500	2000
Raccoon	Hollister, Ross & Co.	Hot or cold.	1800	2200
Lawrel	Wurts & Brother	"	1800	2200
Greenup	Wilson, Culbertson & Co	Hot.	1500	1800
Pennsylvania	Wm. Patten & Co	"	1500	2000
Buena Vista	H. W. Means & Co	"	1500	2000
Star	Lampton, M'Collough & Co.	"	1500	1800
Carolein	Wurts & Farell	Cold.	1500	1800
Amanda	Paull & Jones	"	1500	1800
Bellefonte	Wm. D. Pogur	"	1500	1800
Ky. Clinton	Wm. Patterson & Co	"	1500	2000
Sandy	Patten, Gilruth & Co	"	1200	1500
Mt. Savage	R. M. Biggs	"	2000	2500

Indiana.

Wabash Valley—Another Railroad Project.—A large meeting was held in Rochester, Fulton county. Ind., on the 22d ult., to take into consideration the feasibility of constructing a railroad from Peru or Logansport, Ind., to South Bend or La Porte.—The following resolutions, among others, were adopted:

Resolved, That the construction of a railroad from Peru to Logansport, to intersect the Northern Indiana railroad, at either South Bend or La Porte, and making Rochester and Plymouth points, is entirely practicable.

Resolved, That we believe that a road constructed on this route would be second to none in the State, either in the transportation of freight, or as a line of travel, as it would pass through the best portion of our State, from the Wabash river to the lake, a great portion of which would run on or near the Michigan road, which is universally known to be the great thoroughfare from northern to southern Indiana: and that the immense amount of travel on said road, as it now is, demands a more comfortable and expeditious mode of conveyance.

A committee was appointed to correspond with the neighboring counties, and to take such other steps as they might deem advisable to secure the end sought for.

Mobile and Ohio Railroad.

The agent appointed by the Governor of Alabama to select and locate the lands in that state appropriated for the Mobile and Ohio railroad, has completed that duty. About two hundred and fifty-three thousand four hundred and forty acres, or three hundred and ninety-six sections, have been selected. Most of the selected lands lie contiguously to the waters of Mobile bay. The lands are said to be worth an average of $3 per acre. The amount which they will yield, it is estimated, will be sufficient to build that section of the road which runs through Alabama.—The grant to the road in Alabama, and other States through which the road will pass, amounts to two millions of acres.

European and North American Railway.

We learn that the Legislature of New Brunswick have passed the Railway Facility Bill, which grants assistance to the amount of $1,250,000 towards the construction of the European and North American railway.

☞ The Schuylkill Navigation company give notice that the canal will be open for navigation, through to Pottsville, on the 25th inst.

New York.

Albany and Susquehanna Railroad.—The subject of constructing a railroad from Albany to Binghampton, following the valley of the Susquehanna, is now attracting a good deal of attention among those immediately interested in this object. The distance between the two places is 130 miles. The route is a remarkably direct and favorable one, and the road can be built at a very low cost. It will run through a beautiful farming district, that at the present time has very few facilities for getting to a market. It will open a very direct communication between Albany and the roads terminating at that point, and the Erie railroad; and what is of still greater importance, it will bring that city and Northern and Eastern New York into Direct connection with the coal fields of Pennsylvania. A large amount, it is said, can be raised for this road, along its line, and it will receive a warm support from the city of Albany. A convention is to be held at Oneonta, in Otsego county, on the 2d proximo, at which a large number of the representatives of the Massachusetts railroads, and those of Northern New York, are expected to be present.

European and North American Railway.

We give below a portion of a memorial of this company, for building the Maine portion of this road, presented through their committee, consisting of John A. Poor, E. L. Hamlin, and A. G. Chandler, Esq., to the Massachusetts Legislature, for aid by appropriations of proceeds of public land of the latter, situated in Maine. At the time of the separation in 1820, the lands falling to the share of Massachusetts, amounted to 4,308,379 acres, from which she has already received the sum of $1,998,-226 55, and there still belongs to that State 1,834,-547 acres.

The petition for aid is based in part upon the effect that the proposed road would have in increasing the value of the land unsold; but more especially upon the influence which the road would have upon the business of Boston, in developing the resources of the territory lying to the east of that city. As a competitor for the southern and western trade, Boston must always yield to the superior advantages of New York. The former can never expect much trade south or west of the Hudson river. All her efforts to draw to herself trade beyond this natural channel have failed, except so far as her own products are concerned; and for these, New York is rapidly becoming the point of distribution. But as she now occupies the most northerly position of the great Atlantic cities, all the territory that lies to the north and east, is the appropriate field for her to cultivate, and here is a field limitless in extent, and in resources. The more advantageous position of New York for foreign commerce has made that city the great depot for ocean steamers, of which Boston in the outset enjoyed the monopoly. By the European and North American railway she can again place herself on the great line of communication between the old world and the new, and again stand ahead of New York in the receipt of foreign intelligence. On the east there is a vast and undeveloped country, with resources as great as are presented by any portion of the United States of equal extent. This field has, therefore, been entirely neglected. Boston has now accomplished all in her power to attract to herself the trade of New England. Every mile of road now constructed west of her is a New York rather than a Boston road; but in the opposite direction she is without a rival. Whatever she developes in that quarter, she secures.

The influence of railroads in promoting the growth of Massachusetts, and the necessity that now exists for turning the attention of her people in a new direction, is well set out in the subjoined extract:—

From the time of the separation till the year 1835, the progress of Maine in business and wealth was equal to that of the other portions of New England generally, and in population the growth of Maine was about equal to that of the whole country, and vastly greater than that of Massachusetts. Our valuable water-power, the superior quality of our soil, our immense tracts of valuable timber, the enormous safe and accessible harbors upon our coast, and the cheap price of land, with many valuable mineral resources, and above all, the salubrity and healthfulness of our climate, invited emigration of the most valuable class of persons from all parts of New England, including many from Massachusetts.

The year 1835 was the turning point in the history of New England. Massachusetts opened three of her great lines of railway, reaching in that year to Providence, to Worcester, and to Lowell; and the railway system of Massachusetts became firmly implanted upon her soil. Industry was quickened thereby, enterprise stimulated, and the price of labor enhanced. The tide of emigration throughout all New England was immediately turned upon Massachusetts. The sagacious industry of Massachusetts wielding this great agency, the railway, with a bolder and more intelligent grasp, than any other people, changed as by a magic power the whole history of the continent.

The financial and commercial revulsion which swept over Maine, and most other parts of the Union, with such disastrous consequences, from 1835 to 1840, was scarcely felt in Boston or in Massachusetts, except by indirect results, from losses by debt. The price of real estate, the great criterion of value, was but slightly affected in Massachusetts, while in every portion of Maine it fell to a merely nominal value, and to this day, the price of real estate throughout Maine, with but few exceptions, and these exceptions manufacturing or trading towns, is not greater than it was prior to the speculations of 1835.

The census of 1850 disclosed to the people of Maine the astounding fact, that Massachusetts from 1840 to 1850, increased at the rate of 34 8-10 per cent., showing a density of population equal to 132 persons to the square mile, while the State of Maine had only increased at the rate of 16 6-10 per cent., and contains a population of only 17 8-10 persons to the square mile. The results of the census of 1850 were not generally anticipated by our own people, though many had perceived the silent but gradual withdrawal of much of the wealth and business talent of Maine to Massachusetts, while there was also a strong tendency among the farming interest to emigrate west, and that the agricultural portions of our state were making very little if any progress, and some of them were diminishing in population.

The rapid growth of every portion of Massachusetts for the last fifteen years, has given an increased value to all fixed property within the State, which increase of value has given still greater development to the industrial energies of her whole people, the fruits of which are now seen in the railways which cover the State as with a net-work, in her improved agriculture, and in her factories and her workshops, which make every valley resound with the hum of her industry.

Efforts have been made within the last few years, in Maine, to introduce railways, and in other respects to imitate in some measure the policy of Massachusetts. A system of railways has been entered upon which promise the most satisfactory results, the value and importance of which are by no means confined to the limits of the State.

Some of the railways of Maine, in which little if any Massachusetts capital is embarked, are, as we believe, of paramount value and importance to Massachusetts. This will be admitted by any one who thoroughly appreciates the intimate business relations of the two states. That the interests of the two states are most intimately connected, are clearly seen by any one who is in the habit of considering their geographical and commercial relations, and the position of Maine in reference to the residue of the country.

The value of a central position is equally apparent in relation to the laws of trade, as in reference to social and political advantages. The great heart of commerce, and the seat of political power on this continent at the present time, lie to the south and west of Massachusetts. Every year shows more and more closely the absorbing influence of a great commercial capital over superior industry, greater forecast, and more frugal economy in the habits of the people.

Over twenty years ago, Boston was led to perceive that New York was beginning to draw from her business, consequent upon its rapid growth after the opening of the Erie Canal. The industrial policy of Massachusetts then wisely entered upon, was the only means within her reach, to retain her relative position.

Her success is seen in the more rapid growth of Massachusetts over that of the State of New York, from 1840 to 1850. That of Massachusetts being equal to 34 8-10 per cent., while New York has grown at the rate of 27 per cent. only, upon the population of 1840.

The great competition with Massachusetts industry, however, is from her more southern neighbors, and the commercial supremacy of New York, naturally attracts to it, trade which formerly was confined to Boston.

The railway avenues extending from New York city northward, will soon connect with and cross many of the lines extending from Boston westward, upon which—more easy gradients are found running to New York, than can be obtained in ascending from the Connecticut valley to Boston,—the trade of Vermont and portions of Massachusetts and New Hampshire, will naturally flow to the largest market.

Competition is daily becoming more and more active between New York and Boston. The opening of the New York and New Haven railroad gave a greater impulse to the business of New York than any event of the last fifteen years. The extension of the Hudson River railroad to Albany and Troy, and the completion of the Harlem railroad to a point of intersection with the Albany and West Stockbridge railroad will offer a stronger competition to the western railroad than it has yet encountered, already great, as is shown by the diminished quantity of produce brought over it the last year.

Every merchant and business man of Boston is aware of the fact, that a very large portion of the business of that metropolis comes from the State of Maine, an amount far greater than the community generally suppose. In confirmation of the truth of this statement we confidently refer to the merchants of Boston and to the public records of the national and state government, Of the 7004 vessels which entered Boston harbor in the year 1847, 2594 werefrom Maine. Four tenths of the entire travel which enters the city of Boston over her *seven trunk* lines of railway, pass over the two roads running from Boston into Maine.

The returns for 1847 of the bills redeemed at the Suffolk Bank, will show that over thirteen millions of the Maine banks were redeemed in Boston in that year, and it is believed that those of 1850 will show a still greater amount.

Other illustrations equally suggestive might be given, all tending to show the immense trade between Maine and Massachusetts.

The people of Maine consume more largely of the manufactures of Massachusetts than any other population of equal numbers.

Is it not for the interest of Boston, therefore, to build up and foster industry in Maine, in preference to the Connecticut valley or the country lying west of it? The trade of Maine naturally falls to Boston, and must pass by Boston, if it seeks the great market south.

The inevitable laws of trade resulting from the geographical position of Maine, make her prosperity and that of Massachusetts closely connected, if not identical.

Any line of railway that throws business and travel east of Boston contributes directly to her trade and business. More or less of this trade and business reach Boston, or pass through it going to New York. As well might the intelligent stranger pass through your capitol without noticing its lofty columns and its symmetrical architecture, as the intelligent business man pass through your city without being instinctively led to trade with a community, so renowned for thrift and successful enterprise, as the merchants of Boston. Intercourse begets traffic, as naturally as exercise imparts strength to the body, and so long as the laws of nature remain unchanged, the trade of Maine can never seek New York or a more southern market without giving to Massachusetts the first offer of her trade and her business.

No intelligent mind can doubt the ability of Maine to sustain a population as dense as that of the agricultural and manufacturing portions of Massachusetts, under the influence of similar laws and like habits of business, with an amount of capital engaged in productive industry in the same ratio to the population. This would give Maine, with 32,268 square miles of territory, a population exceeding four millions of people.

It seems apparent to us, therefore, that Massachusetts has the most direct interest to give encouragement to every enterprise calculated to advance the prosperity of Maine, aside from the great interests in her public lands.

Among the important enterprises of the day, and one of equal importance to Massachusetts, as to Maine, is the plan of the European and North American railway. It is proposed to extend across the entire breadth of this state, in continuation of the lines already built or in process of construction, a line of railway over the most direct and practicable route from the city of Boston to St. John's and Halifax.

Without claiming for this line any advantages commonly ascribed to it, as the means of shortening the time of passage between New York and London, thereby attracting over it the great stream of European travel, it is enough to say that it is proposed to extend a line of railway through a region of country rich in every natural advantage, forests, soil, climate and mineral wealth,—over a route the most direct and practicable that can be ascertained, irrespective of intermediate localities, remove from water communication, giving it perfect immunity from all competition forever, by securing the most direct posstble line, between the great centres of population and business.

Railroad Paint.

FOR depot buildings, bridges, burthen cars, wheels and axles, pipes, steam joints, fences, and every description of work requiring protection from the action of the elements. Price per barrel of 300 pounds, nine dollars.

Orders addressed to J. M. HALL, 36 South street, New York, will receive prompt attention.

March 18, 1851. 3m*

AMERICAN PIG IRON.

"POUGHKEEPSIE" brand, Dutchess Co., N.Y.
"GLENDON" brand, Lehigh county, Pa.

Orders for the above two well known brands will be received, and promptly executed, by

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Atkinson, T. C.,
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Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W, H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Floyd-Jones, Charles,
Alton and Sangamon Railroad, Alton, Illinois.

Gay, Edward F.,
Columbia and Philadelphia Railroad, Philadelphia Pa.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Buffalo and Conhocton Valley Railroad, Bath, N. Y.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Steele, J. Dutton,
Pottstown, Pa.

Trautwine, John C.,
Civil Engineer and Architect, Philadelphia.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Troost, Lewis,
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HOTELS.

Exchange Hotel,
Adjoining Eastern Railroad Depot,
BUFFALO, N. Y.
BY.....FISK & SPERRY,
Late of Delevan House, Albany.

MANSION,
Corner of Maine and Exchange Streets,
P. DORSHIMER. *BUFFALO.*

Barnum's City Hotel,
MONUMENT SQUARE, BALTIMORE.
This Extensive Establishment, erected expressly for a Hotel, with every regard to comfort and convenience, is situated in the centre and most fashionable part of the city, and but a few minutes' walk from the Railroad Depots and Steamboat Landings.
The House has lately undergone a thorough repair, embracing many valuable improvements, and will accommodate 250 Guests. BARNUM & CO.

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HENRY M. SMITH.....Proprietor.
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DUNLAP'S HOTEL,
On the European Plan,
NO. 135 FULTON STREET,
Between Broadway and Nassau St.,
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IRON COMMISSION MERCHANTS,
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State Assayer's office, 31 Somerset st.
Boston Sept. 3, 1850.

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AGENT FOR
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BAILEY-LANE WORKS, SHEFFIELD,
Manufacturers of Cast, Shear, German, Blister, and
Spring Steel,
Of all descriptions, *Warranted* Good.
FILES.

Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for working upon Iron and Steel, made very heavy for recutting.

☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

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FROM THE
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AGENTS for the sale of Charcoal and Anthracite Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.
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Models of this Track, on the most improved plans may be seen at the Engineer's office of the New York and Erie Railroad.

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ALSO—CURLED HAIR, the best manufactured in market.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.
CHARLES T. GILBERT,

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IS prepared to contract for furnishing at manufacturer's prices—
Railroad iron,
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Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention

Manufacture of Patent Wire ROPE AND CABLES,

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Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns' for sale by
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AGENTS for the Balt. City Rolling Mill, from which establishment they are prepared to furnish Ellicott's round, square, and flat bar iron, puddled and charcoal boiler plates and billet iron—also agents for the sale of the Laurel, Gunpowder and Locust Grove (Balt.) forge pig irons, Locust Grove and Laurel Irons for car wheels, Caledonian boiler blooms made from cold blast iron, Old Colony and anti-Eatam nails, Wm. Jessop & Son's steel, Coleman's blister steel and nail rods, sheet, hoop, band, oval and common English iron.

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THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention: J. F. WINSLOW, *President*
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November 6, 1848.

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THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.

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MORRIS, JONES & CO.,
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August 16, 1849. 1y33

Glendon Refined Iron.

Round Iron,	Band Iron,	Hoop Iron,
Square "	Flat "	Scroll "

Axles, Locomotive Tyres,
Manufactured at the Glendon Mills, East Boston, for sale by GEORGE GARDNER & CO.,
5 Liberty Square, Boston, Mass.
Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.

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The above Spikes may be had at factory prices, of Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Brother, Baltimore, Md.

Bowling Iron. Stamped B.O.

Railway Tire Bars | Rivet Iron
Locomotive and other Axles | Locomotive Frame do
Boiler Plates | Bars,
and every other description of this superior Iron.

The subscribers, agents for the sale of Bowling Iron, are prepared to execute orders for importation, especially for railway and machinery uses, with despatch from the manufacturers.

RAYMOND & FULLERTON, 45 Cliff st.

Ibbotson, Brothers & Co's CELEBRATED CAST STEEL AND

Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

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REFINED Juniata Charcoal Billet Iron for Wire.
Do. for Bridging, of great strength.
Flat Rock, Boiler and Flue Iron, rolled to pattern.
Elba, Wheel Iron of great strength and superior chilling properties. Elba Forge Iron, American Shot Iron, Cut Nails, Spikes and Brads, Nail and Spike rods, Railroad Spikes of superior quality, Wrought Chair plates of any pattern, punched or plain.

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,
PARK WORKS, SHEFFIELD,
Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
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Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
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Also by their Agents—
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May 6. 1848.

Railroad Iron.

B. O. Railway Tires, Railway Wheels,
Scotch Pig Iron, Tin Plates and Banca Tin,
Muntzs Patent Metal Sheathing,
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Contracts for Rails made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by
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IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.
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Faggotted Car and Engine Axles

FORGED by RANSTEAD, DEARBORN & Co.,
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These Axles enjoy the highest repulation for excellence, *and are all warranted.*

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3,000 TONS C. L. MAKE 63½ lbs. per yard, now landing and to arrive.

Also contracts made for future delivery of above superior make English Iron.
300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.
For sale in lots to suit purchasers by
DAVID W. WETMORE.
New York, March 26, 1850. 3m

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CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on he oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel, AND ENGINEERING AND MACHINE FILES,

which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.
November 23 1849.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.
Now in store and for sale by
RAYMOND & FULLERTON,
45 Cliff street.

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
3m9 62 Buchanan's Wharf, Baltimore.

Railroad Iron.

1650 Tons, weighing about 61 lbs. per yard, 40 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by
BOORMAN, JOHNSTON & CO.,
119 Greenwich street.
New York, Aug. 26, 1850.

N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the United States.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.

COLLINS, VOSE & CO.,
74 South St.
New York, June 1, 1850.

Tredegar Iron Works.

ROLLING MILL FOUNDRY AND MACHINE SHOPS. The undersigned continues to manufacture at his Works in this city (from best charcoal metal) Bar Iron of every description, embracing—Rounds and Squares, from ¼ to 5 inches diameter. Flats, from ¼ to 7 inches, all thicknesses. Bands and Scrolls, all sizes. Boiler plate and Plough Iron. Railroad and Locomotive Axles and Tires. Locomotive Frames, Spikes and Plates. Hoops, Ovals, Half Ovals, Half Rounds, Angle, T, L, and indeed every description of Iron usually manufactured, all of which he warrants to be equal to any made in this country. He also manufactures at his Foundry and Machine Shops all descriptions of Railroad Work, say, Locomotives, Railroad Wheels and Axles complete and ready for the road, Railroad Chairs, etc. Also, Marine and Stationary Engines all sizes, Sugar mills and Engines, Horse mills, and every kind of Machinery usually required for the operations of the country. He has paid particular attention to getting up machinery, etc., for Gold Mine operations, and those in want of such work might find it to their advantage to give him a call. J. R. ANDERSON.
Richmond, Va., Sept. 10, 1850.

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

Car Wheel Iron.

100 Tons "Columbia" No. 2 Cold Blast Charcoal Iron.
300 Tons "Salisbury" No. 1, do. do.
For sale by CHARLES T. GILBERT,
No. 80 Broad st.
New York, Sept. 21, 1850.

Railroad Spikes.

THE subscribers are prepared to make and execute contracts for Railroad Spikes of a superior quality, manufactured by the New Jersey Iron Company, at Boonton. DUDLEY B. FULLER & CO.
139 Greenwich st. corner of Cedar.

S. S. Keyser & Co., IRON WAREHOUSE,

Corner of South and Pratt Streets,
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Tubes.

The undersigned are in direct communication with the *Birmingham Patent Lap Welded Iron Tube Company*, for the sale of their very excellent and superior Boiler and Gas Tubes in large or small quantities.—These Tubes are sold very extensively in England and on the continent of Europe are sold exclusively by
WM. BIRD & CO.,
Iron and Tinplate Merchants,
44 Wall st., New York
5 Martin's Lane, City, London,
and 140 Buchanan st., Glasgow.

Railroad Spikes, Boiler Rivets, etc.

THE Subscribers, Agents for the sale of James S. Spencer's, Jr., Railroad and Boat Spikes, Boiler Rivets, and Wrought Iron Chairs for Railroads, made at his Works near this city, will execute all orders with promptness, despatch, and of the best quality.

ALSO IMPORTERS of English refined and Merchant Bar Iron; Extra refined Car and Locomotive Axles (from 3½ to 6½ inches in diameter); B. O. Locomotive Tire (welded by Baldwin). Also, supply Boiler and Flue Iron cut to pattern or otherwise.—Spring, Shear, and Cast Steel, etc.. ete., etc.
T. & E. GEORGE.
Philadelphia, November 14, 1850.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited. COOPER & HEWITT,
17 Burling Slip, New York.
February 15, 1850.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of English, Welsh, Scotch, and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery.
WILLIAM BIRD & CO.,
Iron and Tin Plate Merchants,
44 Wall st., New York.
And at 5 Martin's Lane, City, London,
and 140 Buchanan st. Glasgow.
July 27th, 1850.

Railroad Iron.

THE "Montour Iron Company" is prepared to execute orders for Rails of the usual patterns and weights, and of any required length not exceeding 30 feet per rail. Apply at the office of the Company,
No. 73 South 4th st., Philadelphia,
Or to the Agents,
CHOUTEAU, MERLE & SANFORD,
NO. 51 New st., New York.
September, 1850.

Railway Iron.

THE Subscribers will contract to deliver, in the course of the ensuing Spring and Summer, the best English Rails, made by a particular specification, and of any pattern required.

DAVIS, BROOKS & CO.,
68 Broad st.

On hand for sale, English rails of 58 lbs. to the yard, made by particular specifications.

January 10, 1851. 2m

Railroad Iron for Sale.

THE Mansfield and Sandusky City Railroad Co. have on hand from twelve to fifteen hundred tons of American Flat Bar Railroad Iron, weighing 38 lbs. to the lineal yard, which they offer for sale at reasonable rates.

The iron has been in use about four years, and is sound and in good condition. It is 2½ by ½.

It will be ready for delivery at short intervals between the opening of navigation in the spring and the 1st September next.

For further particulars inquire at the office of the company at Sandusky City, Ohio.

C. G. FORBES, President.

December 24, 1850.

American Railroad Iron.

1000 Tons, weighing 50 lbs. per yard, manufactured by Reeves, Abbott & Co., at the Safe Harbor Iron Works, and now lying in yard at Brooklyn, for sale by

CHOUTEAU, MERLE & SANFORD,
No. 51 New street.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplie by addressing J. W. FLACK,

March 6, 1850. Troy, N Y

Railroad Iron.

2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by

COLLINS, VOSE & CO.,
74 South St.

New York, June 1, 1850.

Railroad Spikes, Wrought Chairs and Fastenings.

THE subscribers continue to manufacture, with increased facilities, Hook and Flat Head Railroad Spikes and Chairs. The points being FINISHED BY HAND, have a long taper, and sharp point, and are much superior to those made entirely by machinery.

We are also prepared to furnish Wrought Chairs, Clamps and Fastenings of every description, either punched or plain. The best quality of refined iron is used in the above articles, and our prices will be made as favorable as any in the country.

The patent Clinch Spike will be found an improvement to secure the rail at the joints. They drive in the manner shown and are not liable to work loose.

All communications, addressed to the undersigned, will meet with prompt attention.

SMITH & TYSON,
No. 25 South Charles st., Baltimore Md.

India-rubber for Railroad Cos.

RUBBER SPRINGS—*Bearing and Buffer—Fuller's Patent—Hose* from 1 to 1 9/10 diameter Suction Hose. *Steam Packing* from 1-16 to 2 in thick. *Rubber and Gutta Percha Bands.* These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849. No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of rail roads do not be overcharged by pretenders.

HORACE H. DAY,
Warehouse 23 Courtlandt street

New York, May 21, 1849.

UNION WORKS,

North street, opposite the Railroad Depot,
BALTIMORE.

Poole & Hunt,

Manufacturers of Steam Engines and Mill Gearing, Machinists' Tools, and all kinds of heavy and light Machinery.

Also put up *Arrangements of Wrought Iron Pipes* for heating buildings and conveying steam or water.

Castings of every kind furnished at short notice.

Every exertion will be made to insure the satisfaction of customers.

Great Work on Bridge Building, etc., etc.

JUST published in medium folio, One Dollar, 75 cts. to subscribers.

Part IV of a "THEORETICAL AND PRACTICAL TREATISE ON THE CONSTRUCTION OF BRIDGES IN STONE, IRON AND WOOD," including the Equilbrium of Arches, the mathematical principles of the Oblique Arch, Suspension Arch, etc., Construction of Foundations in Water, Centering, Oblique Arches, etc., the application of Iron to Railroad Structures, Practical Tunnelling, Suspension Bridges, etc.; illustrated by numerous accurately executed Plans, Elevations, Sections and Details of Stone, Iron and Wood Bridges, Viaducts, Tunnels, Culverts, Machines, etc., constructed by the most eminent Architects and Engineers in Europe and the United States, and numerous Original Designs for Bridges, Viaducts, Culverts, etc. The whole calculated to meet the exigencies of Engineers, and assist Draughtsmen, Bridge Builders, Mechanics and Students. By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, sections, and details of the Iron Lattice Bridge 140 feet span over the canal in the suburbs of Dublin on the line of the Dublin and Drogheda R.R., Plans, elevations and sections of the Timber Bridge over the Schuylkill, at Market st., Philadelphia, with Arches 160 and 190 feet span. Plans, elevations and sections of a Timber Bridge with Arches 155 and 200 feet span over the Delaware. Also, plans, elevations, sections and details of Lattice and Frame Wood Bridges, explanatory of Nathaniel Towns and Colonel S. H. Long's methods of constructing Bridges of Wood, with the continuation of the Articles on Coffer dams, Concrete, Limes, Mortars, Cements, etc.

Published by George Duggan, 300 Broadway, New York, to whom all communcations should be addressed and subscriptions forwarded.

☞ Parties remitting Mr. Duggan $5. and the remainder $4 when they have been supplied with the first six parts of the "Theoretical and Practical Treatise on Bridge Building, etc.." shall receive it monthly as published. To those making Mr. Duggan a present remittance of $9, the work will be forwarded post free to any part of the United States.

Great American Engineering

AND MECHANICAL WORK, just published in medium folio One Dollar, 75 cts. to Subscribers.

Part X. of "Specimens of the Stone, Iron & Wood Bridges Viaducts, Tunnels, Culverts, &c., &c., of the United States Railroads." By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, and sections of the Timber Bridge with Arches 136 feet span, over the Mohawk river, on the line of the Utica and Schenectady R.R. Plans elevations, sections and isometrical views of Timber Piers 100 feet high, a Timber Bridge of 55 feet span, and Ice Breakers, on the line of the Little Schuylkill and Susquehanna R.R.

Also plans, elevations, sections, isometrical views and details of an Iron Bridge 356 feet long, with Arches 81 feet span, erected by the N. York Iron Bridge Co. over Moores C[illegible] the line of the Virginia Central R.R., and plans, elevations and sections of an Iron Plank Road Bridge 160 feet span, erected over Buffalo creek by the same company, with a description of Col. Long's method of constructing Bridges in Iron, and an explanation of the causes that led to the failure of the Iron Bridge 60 feet span, near Lackawaxen, on the line of the New York and Erie R. R., at midday, on the 31st July last, by which several lives were lost, and a great amount of property destroyed.

Published by GEORGE DUGGAN,
300 Broadway, New York.

To whom all communications should be addressed and subscriptions forwarded.

Railroad Lanterns.

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,
No. 24 Commercial St. Boston.

August, 16, 1849. 6m33

For Sale.

TWO Locomotive Engines—10½ tons weight, built by Baldwin. Also Four Eight-wheeled Passenger Cars, with side seats, all in good running order. Apply to WM. E. MORRIS,

Office of Philad., Germantown & Norristown Railroad Co., 9th and Green sts., Philadelphia. 3m5

TO RAILROAD COMPANIES, CAR MANUFACTURERS, etc.

THE Undersigned hereby gives public notice, that the Commissioner of Patents, pursuant to his decision in relation thereto, on the 8th day of October, 1850, issued to him a Patent for the sole right to manufacture, and exclusive use of the INDIA RUBBER CAR SPRING, on account of priority of invention of said Spring. F. M. RAY.

New York, Oct. 23, 1850.

Iron Trade of Pennsylvania.

DOCUMENTS and Statistics relating to the Manufacture of Iron in the State of Pennsylvania—giving a history of the manufacture from its commencement to this date, illustrated by diagrams. Also tables giving the address and capacity of every establishment in the State. Prepared by direction of the late convention of the trade held in Philadelphia. For sale by

LINDSAY & BLACKISTON, Philadelphia.
FIELDING LUCUS, Jr., Baltimore.
HENRY G. NICHOLS, 79 Water st., N. Y.
or at this office—price $1 00.

It will be sent by mail to any order enclosing the money, and post paid.

Ulster Iron.

THE ULSTER IRON WORKS, Saugerties, N. Y., continue in full operation. Orders for *round, square, flat, band, hoop and scroll iron*, will be received and promptly executed by

J. & L. TUCKERMAN,
69 West St., New York.

Patent Machine Picket Fence

SIX DIFFERENT STYLES of this fence are now made by patent machinery; and is by far the most economical fence for *Railroads, Farms, Yards*, etc., ever yet offered to the public, costing only from 4 to 30 cents per foot, according to pattern; and is so put up as to be shipped at a trifling expense. Full particulars will be furnished, by addressing the subscriber, to whom all orders should be sent.

N. STRATTON, Troy, N.Y.

Providence Tool Co.,

MANUFACTURERS OF

Plane Irons, Tooth Irons, Soft Moulding and Rabbet Irons, Cornice Irons, Plow Bitts, and Planing Machine Knives:

NUTS, WASHERS AND BOLTS.

—ALSO—

PLATE HINGES AND PICK AXES.

They are prepared to execute orders for all descriptions of Cold Punching and Job Work.

WM. FIELD, Agent. RUFUS WATERMAN, Treas.

PROVIDENCE, R. I.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS J. LOVEGROVE,
Machinist and Founder,
West Falls Avenue, below Pratt st., Baltimore.

Patent Metallic Measuring Tapes.

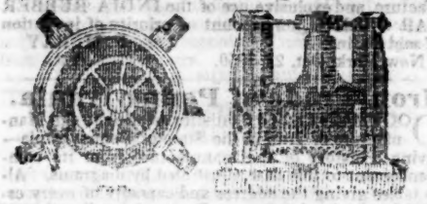
A New Article, made from Vegetable and Mineral substances combined, entirely free from the objections made to all other tapes, arising from contraction and elongation in consequence of atmospheric changes. Fine wires, of a material not affected by dampness or dryness, are woven into the warp of the Patent Tape, rendering it not subject to variations in length, like all other tapes heretofore manufactured.—Instead of being merely painted, it is immersed in a peculiar solution of gums, and the fibres being solidly compacted together, it acquires substance and strength presented by no other article. They are enclosed in patent cases, superior to all others in lightness, strength and durability.

Imported and for sale only—together with every description of Drawing and Profile Paper, Tracing Paper in rolls, Vellum or Tracing Cloth, Field Books, Mouth Glue, and a general assortment of Engineer's materials—by WILLARD FELT,

Importer of Stationary, 191 Pearl st., N. Y.

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has give universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammersman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

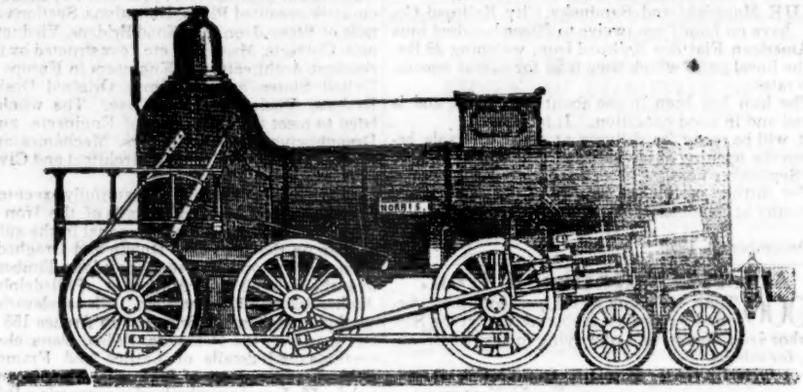
He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others. J. L. BROWN.

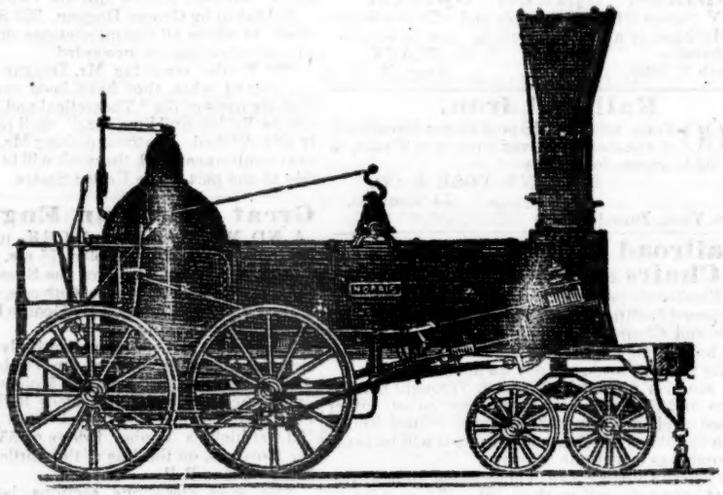
☞ Bank Scales made to order, and all Scales of his make Warranted in every particular.

References given if required

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general asssortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
☞ *Sole Manufacturers,* ☜
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849. 1y

COLUMBUS, OHIO,

Railroad Car Manufactory.

RIDGWAYS & KIMBALL,

HAVE established at this central point, the manufacture of Passenger, Freight, Gravel and Hand Cars for Railroads, and assure all Western Railroad Companies that it will be their constant aim to procure the best materials and workmen, and to turn out the best kind of work at fair prices. Specimens may be seen on the Columbus and Xenia Railroad. The patronage of Railroad Companies is respectfully solicited. 1y8

FOR SALE.

THREE LOCOMOTIVES, Manufactured by M. W. Baldwin, of 10 tons weight, all in complete repair, and now running on the Columbia and Philadelphia Railroad.

For particulars apply to A. L. Roumfort, Supt. of said road, either at Philadelphia, or Parkersburg, Chester county. A. L. ROUMFORT,
Supt. Motive Power Col. & Philad. R.R.